

The School Librarian as Educator:

**An investigation of the collaborative teaching practices
with educational technologies for the 21st century in
Secondary Schools in Trinidad and Tobago**

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Summary

In light of the redefined role of school librarians, this study sought to investigate the level at which collaboration takes effect between the school librarian and teachers, in the delivery of library information literacy instruction, using educational technology in secondary schools in T&T. To achieve this aim, the objectives included a review of international collaboration practices; current practices in T&T; to identify the challenges and barriers affecting collaboration; examination of SLMS technical skills and abilities using 21st century educational technology and to draw conclusions with recommendations for future practice. The main themes discovered from the literature review were the evolving role of school librarians, which covered the historical and 21st century perspective and information literacy instruction; collaboration for teaching and learning which looked at the factors for and levels of collaboration as well as the benefits and challenges of collaboration. The theme emerging under educational technology was the technology skills for educators. A mixed methods approach was used to gain data as online questionnaires were sent to forty purposely selected school librarians, and telephone interviews conducted with three school librarians. Thematic coding was used for analysis. The results showed that low level collaboration practices of cooperation and coordination were in effect, rather than true collaboration. Various multi-faceted challenges were encountered in this effort including time constraints, lack of knowledge of the librarian role, lack of support, technology issues as well as the culture of the school. Despite these challenges, the study shows that school librarians have a genuine desire to work with teachers for the ultimate achievement of student's development. Further research is needed for analysis and recommendations for training workshops and education for all stakeholders are suggested to improve future practice and for successful collaboration between school librarians and teachers.

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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STATEMENT 1

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Table of Contents

Summary.....	ii
Declaration.....	iii
Table of Contents	iv
List of Tables	vii
List of Figures.....	viii
Abbreviations and Acronyms	ix
Acknowledgements	x
Chapter 1: Introduction	1
1.1 Background to the study	1
1.2 Aims and objectives	2
1.2.1 Research question(s)	2
1.2.2 Research purpose	3
1.2.3 Objectives	3
1.3 Scope.....	4
1.4 Structure.....	4
1.5 Referencing	5
Chapter 2: Literature Review	6
2.1 Introduction.....	6
2.2 Methodology	6
2.3 Results.....	7
2.4 Role of the School Librarian.....	8
2.4.1 Historical perspective.....	8
2.4.2 Twenty-first century vision.....	9
2.4.3 Information literacy instruction	10
2.5 Collaboration for teaching and learning	12

2.5.1	Forms of collaboration	13
2.5.2	Factors of collaboration	14
2.5.3	Benefits and impact on student learning	16
2.5.4	Challenges and barriers	17
2.6	Educational technology in instruction	18
2.6.1	Technology skills for educators	20
2.7	Summary	20
Chapter 3: Methodology.....		21
3.1	Introduction.....	21
3.2	Research approach	21
3.3	Sampling	22
3.4	Research methods	23
3.5	Questionnaire	24
3.5.1	Pilot study	25
3.6	Interviews.....	26
3.6.1	Pilot study	28
3.7	Methods of data analysis.....	28
3.8	Ethics.....	29
3.9	Limitations	30
3.10	Summary	31
Chapter 4: Results.....		32
4.1	Introduction.....	32
4.2	Participants.....	32
4.2.1	The survey.....	32
4.2.2	The interviews.....	34
4.3	Quantitative findings.....	34

4.3.1	Demographics	34
4.3.2	Role of collaboration in information literacy instruction	35
4.3.3	Factors for collaboration	36
4.3.4	Forms of collaboration	41
4.3.5	Challenges and barriers	42
4.3.6	Skills in educational technology	42
4.3.7	Educational technology in instruction	44
4.4	Qualitative findings.....	47
4.4.1	Role of collaboration in information literacy instruction	47
4.4.2	Frequency of collaboration	48
4.4.3	Forms of collaboration	49
4.4.4	Factors of collaboration	50
4.4.5	Challenges and barriers	53
4.4.6	Technology in instruction	55
4.5	Summary	55
Chapter 5: Discussion		56
5.1	Introduction.....	56
5.2	Collaboration practices	56
5.2.1	Comparison by school category	58
5.3	Challenges and barriers	58
5.3.1	Resources	59
5.3.2	Role definition	60
5.3.3	Support.....	62
5.3.4	School culture	63
5.4	Technology in education – skills and abilities	63
5.5	School librarians as educators.....	64
5.6	Summary	64

Chapter 6: Conclusion	65
6.1 Introduction.....	65
6.2 Aims and objectives.....	65
6.3 Literature review summary	66
6.4 Methodology review	66
6.5 Results and discussion summary	67
6.6 Gaps in the literature.....	68
6.7 Reflections on the research	69
6.8 Recommendations.....	69
6.9 Conclusions.....	70
References	71
Bibliography	75
Appendix A: Mind map	83
Appendix B: Literature Search plan	84
Appendix C: Letter seeking permission to use network	85
Appendix D: Invitation email for questionnaire	86
Appendix D (a): Reminder email for questionnaire	87
Appendix E: Final questionnaire	88
Appendix F: Summary results from e Survey	92
Appendix G: Qualitative results from e Survey	98
Appendix H: Sample consent form for interview	102
Appendix I: Interview schedule	103
Appendix J: Sample part of initial coded transcript	106
Appendix K: Sample of initial coded qualitative questions	118
Appendix L: Final coding theme	121

List of Tables

Table 4.1:	Number and characteristics of persons surveyed.....	32
Table 4.2:	Working knowledge of technology by librarians.....	42
Table 4.3:	Technology skills of librarians.....	42
Table 4.4:	Rating of technology training	43
Table 4.5:	Technology (software) currently used	44
Table 4.6:	Technological capabilities in secondary schools	45
Table 4.7:	Technology (hardware) available at schools.....	45

List of Figures

Figure 4.1:	Librarian participation by school category	33
Figure 4.2:	Number of years as a practicing librarian	34
Figure 4.3:	Librarians experience by school category.....	35
Figure 4.4:	Librarians with a role in collaboration.....	35
Figure 4.5:	Occurrences of collaboration	36
Figure 4.6:	Readiness for collaboration.....	37
Figure 4.7:	Overall readiness for collaboration by school category.....	38
Figure 4.8:	Support for collaboration	40
Figure 4.9:	Overall support for collaboration by school category.....	41
Figure 4.10:	Skills in educational technology	43
Figure 4.11:	Usage of technology in collaborative sessions	44
Figure 4.12:	Educational technology in instruction	46

Abbreviations and acronyms

AASL	American Association of School Librarians
ALA	American Library Association
Big6	Big6 Information Literacy Process
Cert Ed.	Certificate in Education for School Librarians
ELSD	Educational Library Services Division
LATT	Library Association of Trinidad and Tobago
LILC	Library Information Literacy Curriculum
NALIS	National Library and Information Systems Authority
SBA	School Based Assessment
SEMP	Secondary Education Modernization Program
SLMC	School Library Media Center
SLMS	School Library Media Specialist
T&T	Trinidad and Tobago
UK	United Kingdom
USA	United States of America

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CHAPTER 1: INTRODUCTION

1.1 Background to the study

Secondary school libraries in Trinidad and Tobago (T&T) have been undergoing significant changes over the last decade. The changing information landscape and the highly technological environment of secondary schools in the 21st century have not only shifted the focus of education but has significantly redefined the role of school librarians (Johnson, 2012, p. 1; Mokhtar & Majid, 2006, p. 266; Lookee, 2011, p. 3). With technology as a crucial element of teaching and learning, the school librarian has evolved to Library Media Specialist, along with the competencies needed, which have also expanded accordingly, in order to succeed in this new role. Where librarians in the past were expected to build well-rounded library collections and be an effective manager of these resources (Church, 2008, p.1), today's Library Media Specialist is called upon to take an active role in the instructional program of the school. This new role requires school librarians to serve not only as an information specialist but also as an instructional partner (AASL 1998), working collaboratively with classroom teachers to help students competently access and use information.

As an instructional partner, school librarians are expected to be versed in instructional design, with the ability to integrate new technology into the library setting and work collaboratively with teachers. This role of collaboration with teachers is documented in the professional standards and guidelines that defines and guide practice for school librarians (AASL, 2007; ALA and AASL 2010). As such, emphasis is placed on collaboration with teachers as part of school librarianship in order to help students competently access and use information effectively and skilfully in the 21st century. Bearing in mind that “schools and students strive when the school library is staffed with a full-time certified librarian” (Heindel, Roberts,

Southworth and Thomas, 2014, p. 74), the National Library and Information System Authority (NALIS) have been offering scholarships to library personnel, in an effort to fill the number of vacancies for professional librarians that currently exist in the secondary schools.

In spite of this professional librarian approach in the schools however, the mandate for collaboration with classroom teachers is somewhat of a dilemma in some instances given that school librarians in T&T are not considered as part of the instructional team. There is uncertainty about the level of existing collaboration and the extent to which educational technology is used. Studies undertaken in the United States and the United Kingdom show that collaborations between teachers and librarians do bring positive results, but there is limited evidence to show this type of collaboration in schools with the aid of educational technology, especially in the Caribbean. This research will explore the level and expectations of these collaborative efforts and the readiness of school librarians in T & T to undertake this mandate efficiently.

1.2 Aims and objectives

1.2.1 Research question(s)

After reviewing the literature which focused at examining the collaborative teaching role of school librarians at the secondary school level, with the aid of educational technology for the 21st century, the following research questions guide the study:

1. To what extent are school librarians in Trinidad and Tobago performing their collaborative teaching role?

2. How do school librarians' rate their knowledge base of educational technology for 21st century skills and is it sufficient for effective application in their collaborative teaching role to ultimately impact on student achievement?'

1.2.2 Research Purpose

This study seeks to investigate the level at which collaboration takes effect between the school librarian and classroom teacher in the provision of well-planned instruction integrated with information literacy that supports the school curriculum for the 21st century learner as perceived and understood by current school librarians. The activities towards collaboration with the aid of educational technologies, as well as the challenges and barriers faced, and how these impact on student achievement, will be identified in an attempt to determine best practices for future development of school librarians in T & T.

1.2.3 Objectives

The specific objectives are as follows:

1. To review current international collaboration practices between school librarians and teachers for the provision of information literacy instruction, using educational technology
2. To describe school librarians current experiences in their collaborative efforts.
3. To identify the main challenges and barriers encountered by school librarians that affect collaboration.
4. To examine their skills and technical abilities using 21st century educational technology.

5. To draw conclusions and develop recommendations that can support the collaborative efforts between school librarians and teachers in T&T, and ultimately impact on student achievement.

1.3 Scope

The research is limited to exploring the views of current librarians working in secondary school libraries in Trinidad and Tobago, under the NALIS body. To manage this study within the time available, a questionnaire survey will be distributed to 50% of school librarians (78 at the time of this study) for a quantitative response, while only four (4) librarians (10%) will be selected for qualitative interviews.

The decision to conduct this research is relevant, as new librarians are currently being appointed to positions in secondary school libraries upon completion of Library Studies from the University. It is necessary to identify all parameters that may affect the efficient performance in their collaborative efforts with teachers, using educational technology.

1.4 Structure

This dissertation is divided into six (6) chapters. Chapter 1 provides an introduction to the topic and outlines the aims and objectives of this study. A review of the literature and practices with collaboration methods between teacher and school librarians is presented in Chapter 2. The methodology involved in the construction of the questionnaire, which was based on the literature reviewed, as well as the interview schedule will be presented in Chapter 3. Chapter 4 follows with an analysis of the results of the questionnaire and interviews, leading to further discussion with reference to the literature in Chapter 5, which also provides recommendations for best practice. The summary of the study is presented in Chapter 6 with further evaluation of the research process.

1.5 Referencing

The Harvard American Psychological Association (Harvard APA) citation style is used throughout this dissertation.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The purpose of this review is to convey the ideas and themes presented in the research that has already been undertaken on collaboration between the school librarian and teacher in the teaching of information literacy, with the aid of educational technologies. This review will discuss the role of the Librarian as it pertains to collaboration with teachers; the levels and factors for collaboration, its strengths and limitations, as well as the challenges and barriers faced by the Library Media Specialists in this endeavour. While an initial search was conducted to establish an information base for the research proposal, the search for this review was more structured in an attempt to locate recently published literature appropriate and useful to this study both in the Caribbean and in developed countries.

2.2 Methodology

The initial process began with a mind map of the subject area, created to generate the sub-themes and keywords that would be used in the literature search which enabled the researcher to see related themes and inter-related issues. Relevant themes to this research were identified as librarian and teacher collaboration; information literacy and curriculum; technology in learning; educational technology in collaborative instruction and collaboration in Trinidad and Tobago (to name a few). Appendix A captures this mind map with key search terms and issues which were used in different combinations and formed the basis of the literature search. This was entered on NALIS's online database and the university catalogue PRIMO in the search for books and journal articles. Items were also located by looking at the references cited and bibliographies listed within articles selected to read. Being a distance learner, the researcher searched the NALIS online database for some of the book titles that were available in the university catalogues, as this was easier to retrieve.

The key search terms with the various combinations were entered into NALIS database and PRIMO; this can be seen in Appendix B. Some of the problems encountered in conducting this literature review included finding books and articles that adequately dealt with more than one of the areas that needed to be covered. For example, there were books and articles that covered collaboration between school librarians and teachers, or using educational technology in teaching, but little information that made links between both areas. Most of the literature found dealt with collaboration between teachers and school librarians for information literacy instruction without discussing it with the aid of educational technology for the 21st century. Despite the extensive literature on instructional collaboration, the field narrowed significantly when combined with the use of educational technology. This signifies a gap in this area of research, especially given the relevance of this topic in T&T, the Caribbean and the world by extension.

2.3 Results

Investigating the role of the School Library Media Specialist (SLMS) and teacher collaboration is not a new phenomenon, as research has been conducted in this area since early 1980's (Gross and Kientz, 1999). Current literature however, mostly journalistic, focuses on collaboration for the teaching of information literacy with focus on factors such as planning time, administrative support, collection development, leadership and communication between the groups, not including the use of educational technology for the 21st century within the topic.

In order to fully discuss the collaborative role of school librarians, some information is needed to establish how this role evolved over time. By knowing exactly what is expected in this collaborative relationship, all SLMS will have a better opportunity to improve the quality

of their collaborations, which will impact on and lead to improvements in student's achievement. The major themes that emerged from the literature for discussion include:

- The role of the School Librarian/School Library Media Specialist
 - Historical Perspective
 - Twenty-first (21st) Century Vision
 - Information Literacy Instruction
- Collaboration for Teaching and Learning
 - Factors for Collaboration
 - Levels of Collaboration
 - Benefits and Impact of Collaboration on student learning
 - Challenges and Barriers of Collaborating
- Educational Technology in Instruction
 - Technology skills for Educators

2.4 Role of the School Librarian/School Library Media Specialist

2.4.1 Historical Perspective

The literature often refers to school librarians as 'licensed teachers' with a certified educational background, being qualified as either a primary or secondary school teacher or having completed an approved course of study in teacher librarianship (AASL, 2001, p. 76). In the United States of America, the majority of school librarians are certified teachers, blending elements from both the library field and education (Shepherd, Dousay, Kvenild and Meredith, 2015, p. 46; Church, Dickinson, Everhart and Howard, 2012, p. 208). First established as a formal position with schools in the late 19th century, school librarians as trained school teachers, were responsible for maintaining the library in the classroom

(Theard-Griggs & Lilly, 2014, p. 31). Traditionally however, teachers and SLMS have worked individually in their respective settings (AASL, 2001, p. 40), with librarians teaching basic library skills to students.

Guidelines established by the American Association of School Librarians (AASL) since the early 1900s have continued to guide school librarians in their respective roles even after shifts in the focus from providing resources to ‘interacting with teacher and students’ (Church et al., 2012, p. 209). As a result of the information explosion, change was evident by the end of the 20th century, and focus was placed on information literacy within the context of education (Thomas, Crow & Franklin, 2011, p. xvi).

2.4.2 Twenty-first Century Vision

Current AASL standards and *Empowering Learners: Guidelines for School Library Program* (AASL, 2009) now reflects the changed role of school librarians. In addition, the publication of ‘*Information Power: Building Partnerships for Learning*’, opened doors to shape the way forward for School Librarians, reflecting the changing landscape of education (Church et al. 2012, p. 209). According to Feng (n.d. p.1), ‘a new type of school librarian is required, one that is better equipped and broadly educated than one just ten years ago’ (cited in Partridge, Menzies, Lee and Munroe, 2010, p. 265). Today’s school librarian has since evolved to that of School Library Media Specialist (SLMS) and become more responsible for supporting students in the achievement of information literacy standards (ALA, 1998a). Their goals include:

‘Developing an understanding of the information literacy standards for student learning and its relation to the curriculum; promoting a rationale for infusing the information literacy standards for student learning; promoting specific plans for incorporating the information literacy standards for student learning into day to day instructional activities; collaborating regularly with teachers to encourage students to

become information literate, independent in their learning and socially responsible in their use of information technology.’

(AASL, 1998b, pp. 62-63).

Students today live in an information world that is increasingly dependent on knowledge (AASL, 1998b, p. 47), hence the responsibilities placed on SLMS are ‘more crucial than ever before’ to meet constantly changing information needs (AASL, 1998b, p. 49). Empowered to lead schools in a change process, SLMS are expected to fulfil numerous roles including teacher, instructional partner and leader in the area of technology integration. These roles, according to McNamara et al, 2002 and Flores 2006, are a ‘journey of transitions, conditioned by existing identities and pedagogies’ (cited in Austin and Bhandol, 2013, pp. 15-16). As instructional partner they are expected not only to create a collaborative environment, but also to work closely with teachers in designing learning tasks and assessments that integrate the information and communication abilities to meet subject matter standards (AASL, 1998b, p. 5; Johnson, 2012, p. 3). While this role (instructional partner) has been identified as a critical role to the future of school librarianship (AASL, 2009; Moreillon, 2013, p. 55), this by itself however, cannot ensure that students develop “the necessary skills for success in the 21st century” (Schrack, 2015, p. 35). According to Moreillon, the ‘what’ and the ‘why’ issues of school librarianship has been pointed out but little stated on ‘how’ these will be accomplished (2013, p. 56).

2.4.3 Information Literacy Instruction

Information literacy can be termed as “the ability to find and use information” and is the keystone of lifelong learning. It extends beyond specific information skills to a broader set of skills that enable a person to access, evaluate and use information effectively (AASL, 1998a, p. 1). In the 21st century modern economies, information literacy is critical for success in the workplace, in daily life and for participation as an informed citizen (Julien & Pecoskie, 2009,

p.149; AASL, 1998b, p. 5). The school librarian teaches information literacy skills to 21st century students that will enable them to determine the extent of information ‘needed’ from the various media effectively and efficiently, to critically evaluate from various sources and use information ethically and legally (Thomas et. al, 2011, p. 29; AASL, 1998a, p. 5).

Student learning is at the centre of information literacy instruction, which is essential for students to master curricular content, critical thinking and problem solving. These skills need to be integrated or embedded into various teaching units or subjects as they cannot be taught in isolation. According to Todd (2012, p. 9), ‘it is no longer about the teacher teaching ‘content’ and the school librarian teaching ‘information skills’. It is about the mutuality of intent, working together to develop deep knowledge and understanding’ (cited in Callison, 2015, p. 20). The SLMS today must therefore focus on the process of learning rather than dissemination of information, teaching information skills in collaboration with teachers with some emphasis placed on using educational technologies. This collaboration therefore is critical in helping students learn skills that ‘are necessary for successful negotiation of the myriad information sources and media widely available in the western world’ (Julien and Pecoskie, 2009, p. 149).

While some form of collaboration may occur, this is mostly without the educational technology accompanying the lesson. Although the SLMS provides leadership and expertise in acquiring and evaluating information resources in all formats, ‘the school librarian is often overlooked’ (Theard-Griggs & Lilly, 2014, p. 31). “The 21st century school librarian serves not just as information specialist, but also teacher and instructional partner within the school” (Church, 2011, p. 10), and has become more responsible for supporting students in the achievement of information literacy standards (ALA, 1998, as cited in Theard-Griggs &

Lilly, 2014, p. 31). In fact, today's school librarian 'empowers students to be critical thinkers, enthusiastic readers, skilful researchers, and ethical users of information' (AASL, 2009, p.8), in a rapidly changing information world.

'As an information specialist, the school librarian is involved in the effective integration and use of information technology' (Church, 2011, p. 11). As technology continues to change so too do the skill sets required by librarians. The vision of integrating technology in the library media program demands technological competencies, hence the SLMS has to exert leadership ability in the promoting of the use of technology for the skills students will need in the 21st century.

2.5 Collaboration for Teaching and Learning

Librarian and teacher collaboration can be dated back all the way to the early 19th century.

'Collaboration between the school librarian and classroom teachers to integrate information literacy skills into the curriculum has always been a goal of the school library program'.

(Jones & Green, 2012, p. 26).

The goal of collaboration with librarians and teachers in information literacy would be to identify what students could do, what they think they could do and what they need to know about the research process to be effective researchers. The literature talks about collaboration on curriculum design and development, working together to build a shared curriculum (Leeder, 2011a, p. 5) and the co-teaching element where both parties work together to integrate instruction in 21st century skills with content curriculum (Church, 2011, p. 11). Having worked individually in their respective settings (teacher and SLMS), collaboration challenges this norm and also both parties to step outside their comfort zones, to take risks and to invest time and effort in working together (AASL, 2001, p. 40). While collaboration is

a desired approach, “many teachers and librarians were never taught successful techniques or strategies for being part of a collaborative team or effort” (Holmes and Tobin, 2005, p. 40) and “many school librarians do not engage in collaborative planning or practice the instructive role” (Moreillon, 2013, p. 56).

2.5.1 Forms of Collaboration

The literature on instructional collaboration is extensive, with the goal being to “improve teaching and learning so that students use information literacy skills to produce work that meets standards of high quality’ (AASL, 2001, p. 36). Varied according to the conditions of each school, the various aspects of collaboration include coordination, cooperation/ partnerships, integrated instruction or integrated curriculum (AASL, 2001, p. 37; Moreillon, 2009, p. 183). They take forms such as planning and debriefing of assignments; team teaching of classes to complete assigned work (where research is required). This results in the students seeing both librarian and teacher as ‘equals’ (Holmes and Tobin, 2005, p. 41).

Cooperation involves the teacher(s) working with the SLMS in a “loose relationship”, each working independently and sharing information as needed without defining a common purpose or assessing activities together. In this stance, teachers view the SLMS ‘merely as a provider of resources, not as a planning or teaching partner who can offer specialized knowledge in information literacy’ (AASL, 2001, p. 37). On the other hand, coordination is a more formal working relationship in which teachers and the SLMS have a ‘shared understanding of goals for teaching and learning’. It involves more planning and consistent communication among the teachers and the SLMS, where the specific role of the SLMS is research oriented with the use of the SLMC resources. There is no joint planning or assessing of student work in coordination.

True collaboration involves on-going communication between teachers and SLMS about shared goals for student learning. A shared goal has to be articulated between the librarian and the teacher and it is actually the librarian who sets a standard or level of library skills that has to be met in assignments, in the fulfilment of a particular lesson(s). (Sanborn, 2005, p. 479). Each understands the other's role and they all make plans to achieve them through shared leadership and responsibility, working together to accomplish goals and design experiences that shape student learning (AASL, 2001, p. 36; Leeder, 2011a, p. 1).

2.5.2 Factors for Collaboration

‘Successful collaboration requires a wide range of professional skills, knowledge and dispositions, plus school structures and resources that allow these to flourish’
(AASL, 2001, p. 38).

Planning is the practice that enables collaboration. According to Kimmel, ‘regularly scheduled planning meetings’ is one of the most important factors for successful teacher-librarian collaboration (2013, p. 49). Theard-Griggs et al. on the other hand, argues that relationship building is the key, because only after you have built relationships can you start the collaboration process (2014, p. 32). As collaboration requires a shift from our normal way of doing things, it also demands an open mind, a bold and friendly nature, willingness to listen as well as discuss, flexibility and ability to compromise. Communication is needed for effective collaboration because “without communication” according to Sanborn, there is no collaboration with the teaching staff, and the librarian would not be aware of the specifics of the course assignment (Sanborn, 2005, p. 479). It is however, the SLMS who often takes the first step to pursue collegial relationships with the teaching staff (AASL, 2001, p. 40) for teaching and learning and collection development. Good interpersonal skills are seen ‘as a foundation for building trust’ (Thread-Griggs & Lilly, 2014, p. 32; Leeder, 2011b, p. 5) and

are important in initiating this collaboration. Regular communication is therefore needed to maintain the relationships with teachers.

Leeder believes that collaboration requires an equal partnership between librarian and teaching staff, because both parties are required to acknowledge, understand and even embrace the other's viewpoint, the result of which should be a shared vision or product. He further states that 'equal footing is needed for deep collaboration', as it is the deepest type of partnership, and is more likely to yield the greatest benefits for students learning or research' (2011a, p. 2). 'Collaboration as distinct from cooperation requires an equal partnership between the librarian and teacher', (Leeder, 2011b, p. 4). As an instructional partner, the school librarian takes the initiative to collaborate with classroom teachers to provide authentic learning experiences for students. Both parties should have a mutual respect for the expertise that each brings to their professional work (AASL, 2001, pp. 40-41). The sharing of ideas, developing of group goals, resolving differences of opinions, identifying strengths and weaknesses, and developing mutual trust therefore, are all essential to effective collaboration (AASL, 2001, p. 38). The SLMS however, needs to show the connections between information literacy and content related objectives as they become experts on the various curriculums, thus raising teacher's expectations of what the SLMC can do.

In order for collaboration to be embraced within the school, conditions that facilitate this process must be put in place. The literature talks about the importance of building a 'positive relationship with the school principal and other administration' (Cooper and Bray, 2011, p. 49), as collaboration is a process that requires 'active, genuine effort and commitment by all members of the instructional team'. (AASL, 2001, p. 39). The Principal is the key to the success of collaboration within the school and he/she needs to be a supportive administrator

who fosters a collaborative school culture. Once they understand and value the collaborative planning process, they work to create an environment in which professional collaboration can grow through lesson plans or the provision of needed resources (AASL, 2001, p. 39).

Administration must also provide adequate resources such as time for teachers and SLMS to plan together on a regular basis; a current library collection; professional development resources for new skills to be learnt and any other resources necessary for successful collaboration (AASL, 2001, p. 14; AASL, 1998b, p 64). For all this however, flexible scheduling is a ‘critical’ factor for collaboration planning between teacher and SLMS (AASL, 2001, p. 42; Holmes & Tobin, 2005, p. 43) as each party has to be ready and willing to make necessary modifications.

Research shows the librarian has to be a strong advocate for the collaborative process and must take a more assertive and persistent role (AASL, 1998b, p. 51; Holmes and Tobin, 2005, p. 43) to work continuously to nurture relationships. Collaboration, leadership and technology go together and the dynamics of each individual situation must be looked at. The SLMS also has to exert leadership role in the promoting of the use of technology for the skills students will need in the 21st century.

2.5.3 Benefits and Impact of Collaboration on Student Learning

There is an extensive literature on school librarian and teacher collaboration as an instructional strategy that positively affects student academic achievement. According to Schrack, ‘it is through collaborative efforts that school librarians can establish their value to the academic achievement of students’ (2015, p. 35). Once the collaborative relationship is established, school librarians can more effectively serve students, as the library becomes the learning centre of the school and SLMS and teachers are encouraged to collaborate on lesson

plans and assignments. This helps to ‘create a vibrant and engaged community of learners, strengthens the whole school program as well as the library media program throughout the whole school’ (AASL, 1998b, p. 51). Specific practices however, are rarely defined to understand the extent to which theory and practice are integrated.

2.5.4 Challenges and Barriers of Collaborating

Information literacy education is a fundamental educational and societal issue, not only a librarianship issue. Accordingly, the skills need to be integrated into various teaching units to be taught in the right context and not in isolation, hence the need for collaborative work between school librarians and classroom teachers. Discussions with practicing school library media specialist about the major challenges they face will inevitably include problems with teacher-collaboration “it does not happen often enough, and the collaboration that does take place many times does not approach a level where the SLMS would be considered an indispensable member of the instructional team” (Cooper and Bray, 2011, p. 48). Most teachers however, are comfortable with their usual teaching routines and resist collaboration because they see no need to change. Their attitudes to collaboration stem from the traditional role of teaching because they are not fully aware of the librarians role as instructional partner in the delivery of information literacy skills (Johnson, 2012, p. 20; Aronson, 1996, p. 4).

Collaborative practices thus become difficult to achieve due to time constraints and the scheduling of classes (Hartzel, 2002, p. 96). To fulfil a particular lesson(s) a shared goal has to be articulated. Given that emphasis is placed on standardized test within the education system, teachers do not have adequate time to devote to collaborative information literacy skills projects because of the overwhelming syllabi content they are expected to deliver within the given timeframe (Aronson, 1996, p. 3). Any ‘spare time’ they may have usually

covers any administrative paper work and/or extracurricular activities, and collaboration planning would compete with this time. On the other hand, some teachers view team-teaching and collaborative teaching as a threat to their independence in the classroom (AASL, 2001, p. 40) and shy away from the opportunity.

The financial commitment for collaboration includes the supply of required equipment (technological and otherwise), resources and staff training. This barrier of cost is a major factor for successful collaboration as the necessary technology and up to date library resources is critical to its success, and staff must also be trained in these methods. Without support and commitment from administration, collaboration cannot be a success (Hartzel, 2002, p. 93). It requires that the school library be considered as a learning resource centre for the entire school and not just for those students scheduled for library classes.

Another challenge stems from librarians themselves, as they are known to have ‘an insecurity complex’. According to Pritchard, “librarians need to view themselves as professional colleagues with important knowledge and expertise to contribute” (Pritchard, 2010, as cited in Leeder, Part I, 2011, p. 2).

2.6 Educational Technology in Instruction

Promoting the use of technology is an important aspect of the school library media program (AASL, 1998b, p.54). The role of technology, both instructional and informational is emphasized in the literature for enhanced student learning and recommended for student readiness for the 21st century. Educational technology has to be seen as a process rather than a product and should be used to enhance learning rather than only to manipulate data.

Transforming not only access to information but also “the skills needed to interact with it and

use it as well” (Johnson, 2012, pp. 1-2), new technology challenges librarians to ‘examine what skills are necessary in the age of technology’ (Mathews and Pardue, 2009, p. 257, as cited in Partridge, Menzies, Lee & Munro, 2010, p. 265). The SLMS as a leader in the school’s use of technologies must focus on using technology effectively to enhance student learning and also help those teachers

‘use technology in innovative ways across the curriculum, design student experiences that use technology in authentic ways, select appropriate technology resources, and collaborate with the learning community to plan, design, implement and continually refine an effective, student-centered technology plan’

(AASL, 2001, p. 82)

While collaborating with the aid of technology is a ‘logical and desirable approach’ (Holmes & Tobin, 2005, p.40), many librarians were never taught successful techniques or strategies for being part of a collaborative team effort.” As a result of this lack of knowledge, fear and anxiety can occur (Holmes & Tobin, 2005, p. 40). There is that need therefore, to integrate technology into instruction.

Special attention has to be given to the ethical use of technology. According to the American Association of School Librarians, ‘the ethical use of technology should be an integral part of technology use in schools’, with students understanding the concepts of ‘privacy, intellectual property, intellectual freedom and appropriateness’ (2001, p. 79). Students need to consider how technology will impact the society and culture in which they live. The changing information landscape that has transformed society and the role of the SLMS also signals the need for continuous learning. “The nature, quantity, and availability of information today and the rapid evolution of information technologies have helped to breed a need for continuous learning” (ALA, 1998b, p. 54).

2.6.1 Technology skills for educators

Understanding computer technology is important for educators as technologies continue to change and evolve constantly. They need to be able to use a variety of tools and cannot be technology illiterate. As such, educators must take the time and effort to maintain and improve their technology skills even in the midst of deficiencies of technology resources (Johnson, 2012, p. 19). Effective technology practices however, are not yet part of the culture of education in many countries.

2.7 Summary

While most of the research focuses on what and why collaboration is important for 21st century learners, there is little information on how this is actually conducted. With endless information on technology use in education, there is even less information that links both aspects (collaboration with technology) together. The research conducted aims to discover what levels of collaboration actually takes place in the secondary schools with the use of educational technology, and will explore the challenges and barriers that exist in this process. The methods used to conduct this research will be described in the next chapter.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter will describe and give justification for the methods used in the conduct of this research to achieve the aims and objectives stated in the introductory chapter. In so doing, the research approach, sampling, ethical issues involved in the data collection, methods of data analysis used, reliability and validity of the research as well as the limitations of the study will be reviewed.

3.2 Research Approach

After reviewing the literature on collaboration between school librarians and teachers, with the aid of educational technology, a multiple data collection approach of quantitative and qualitative research design was conducted to answer the research questions. According to Marshall and Rossman, (1995), ‘the use of multiple data collection techniques compensates for any limitations of individual techniques’ (cited in Pickard, 2007, p. 21). This combined approach was therefore chosen, as the quantitative data sought to provide a current picture of the level of existing collaboration between the SLMS and teacher, and the qualitative study providing an emphasis on individual interpretation.

Combining the quantitative and qualitative approach for this study was done to utilize the strengths of both methods, a positive point put forward by Creswell (2009, p. 203), who believes that the mixed methods approach is a ‘step forward, that utilizes the strengths of both qualitative and quantitative research’. By using these two methods, triangulation of the data can also be conducted to cross check results through comparison, deriving ‘mutually illuminating’ data (Bryman, 2012, pp. 628-635). However, the idea that quantitative and

qualitative research are separate paradigms and therefore incompatible, is an argument that has been put forward by many researchers (Bryman, 2012, p. 629), even though it cannot be demonstrated in social research. Thus, according to Bryman, the mixed methods research remains 'both feasible and desirable' (2012, p. 629).

Data was therefore gathered from school librarians using an online questionnaire and through the conduct of telephone interviews, and these will be cross referenced with the literature reviewed to form the focus of the discussion chapter. Initially, face to face interviews were considered, but due to the critical time frame (Christmas holidays), this had to be changed to accommodate all the interested interviewees who would not have had the time to commute for interview purposes. This can also be considered as a cross sectional design, as data was collected from multiple school librarians situated at various school libraries all across T&T at a single point in time (Bryman, 2012, p.44). The methods used therefore at this time, were chosen as the most suitable as they were used to examine opinions from across the country.

3.3 Sampling

Initially, the population of school librarians (78 at the time of the proposal) which consisted of fifty-four (54) from government secondary schools and twenty-four (24) from denominational secondary schools were considered for the survey. Subsequently a purposive sampling method was adopted to create some boundaries to the sample due to time restrictions and given that these participants, according to Johnson, 'are uniquely positioned' to inform this research because of their established positions (2012, p. 8). Bryman (2012, p. 418) refers to this type of sampling as one in which the researcher 'samples with his or her

research goals in mind', as persons are selected because of their relevance to the research questions.

For reliability and validity of the research, the researcher sought to make the sample representative of the actual body of school librarians. Hence a quota of school librarians was chosen from each category (government and denomination secondary school) in ratio to the number of librarians who practiced in those categories. Twelve (12) denominational secondary school librarians were surveyed with twenty-eight (28) governmental secondary school librarians. This was to ensure a mix of school librarians from both categories in which to survey, and to help make comparisons. The names of the denominational secondary schools and the names of the governmental secondary schools were placed in two separate boxes where the corresponding numbers were drawn from each. A total of forty (40) candidates were selected, making the sample population 51% (approximately) of secondary school librarians.

Four (4) school librarians were solicited for telephone interviews based on their interest in this research topic, realised during an official staff meeting held for all school library personnel on December 15th, 2015. Of these four (4) participants, there were two (2) each from both categories of secondary schools, and each had over five (5) years' experience as a school librarian. Based on their years' experience in the field of library service, varying perspectives on collaboration were expected.

3.4 Research Methods

The most frequently used research methods include questionnaires, interviews or focus groups. Given the time constraints and the time of year (Christmas), focus groups were not

considered a suitable option due to the geographical spread of respondents, and the difficulties to get them together. Online questionnaires and semi-structured telephone interviews were used to obtain the data for the study.

3.5 Questionnaire

An online questionnaire was emailed to the sample group of school librarians. This method was chosen because it was a great option to connect with the school librarians from all parts of T & T in a relatively short space of time using the NALIS institutional network, when compared to traditional methods of paper and post. This method was convenient to the respondents as they could answer on their schedule, at their pace, starting and stopping and completing at a later time. In addition, the data is automated as the results of the online survey can be analysed at any time given that most online tools offer analysis tables or graphs. There is flexibility in the design as more than one type of format can be included, as can be seen in the questionnaire used (Appendix E). However, this flexibility can also be a disadvantage as it cannot be changed once it has begun to be used for collecting data. This was evident in this research, as it was only discovered after the survey began, that no questions were submitted to capture the actual level of collaboration in practice.

E Survey Creator was used to conduct the online questionnaire from the 06th December to the 22nd December. A covering letter of introduction (invitation email) with a hyperlink to the survey was distributed to the group of selected librarians with some detail about the topic, the purpose of the research and all necessary instructions and completion date (Appendix D). Participation was voluntary and participants had the option to select the box 'no more emails' if they did not wish to participate. No incentives were offered. The purpose of the

questionnaire, which was outlined in the invitation email, also included an ethics statement relating to the anonymity and confidentiality of data provided.

The questionnaire incorporated a mixture of twenty (20) open and closed questions to gather information. (See Appendix F for final questionnaire). Two (2) questions were closed ended and eight (8) questions were closed ended with 'optional text field'. A Likert scale was used in several questions to gauge participant's attitudes (Pickard, 2013, p. 212), with 5-point weighting scales from strongly disagree to strongly agree. Only three (3) fully open questions (questions 18 – 20) were used as this instrument was intended as mainly quantitative to aid data ranking, however, it provided participants with the opportunity to individual responses.

3.5.1 Pilot Study

It should be noted that this questionnaire was piloted with three (3) colleagues before it was officially sent to the participating school librarians. Piloting, according to Bryman, has a role to play in ensuring that the research instrument as a whole functions well' (2012, p. 263).

These pilot participants were invited to complete the online survey and provide feedback on the length and structure of the questions and whether they encountered any difficulties in answering the questions. Feedback from all three pilot participants indicated that they had difficulties with two of the questions, as they were unable to select 'all that applied' answers to two (2) questions as was required. Question 13, 'Please identify which of the following technologies (software) you currently use in information literacy classes (Select all that apply)'; and Question 14, 'Please identify which of the following technologies (hardware) you have access to at your library/school (Select all that apply)'. These two questions had to be re-done as the wrong type of format was chosen for these questions (single selection

format chosen instead of optional multiple choice format). Additionally, a change was made to question 1, 'What is your job title?' This originally had two (2) answers 'Librarian I' and 'Librarian II', but feedback from one pilot participant suggested that 'LA II' as well as an 'other' category be included to reflect those persons who may be in charge of libraries and awaiting an official change to their job title.

3.6 Interviews

The interview is one of the most used methods in qualitative research (Bryman, 2012, p. 469). Semi-structured telephone interviews were scheduled initially with four (4) solicited school librarians who are very much involved in their school community, and representatives from both school categories. Purposely selected because of their voiced interest in the topic, these participants according to Creswell (2009, p. 178), 'will best help the researcher in understanding the problem'. However, actual interviews were conducted with only three (3) of the participants on the 21st and 22nd December, as one librarian from a denominational school had to cancel at the last moment due to family obligations at this time of the year.

The telephone interview method was chosen as an alternative to face to face interviews due to time constraints and access to the participants. This method is deemed as appropriate to access the data needed (Pickard, 2013, p. 196), an advantage being cost sensitive in terms of time (to travel) and money. The wide geographical access was not a limitation for this method, as use of the telephone made it possible to interview respondents from any part of T&T. In addition, participants are more willing to disclose information because they are not face to face. However, this method is not without disadvantages, the most noted being the lack of social cues as the interviewer cannot see the interviewee or body language. There is

also the potential difficulty in recording telephone conversations. Given that emotional responses are not sought, lack of social cues is not a significant factor in this research.

Using the semi-structured approach allows a degree of structure but still leaves room for some flexibility and has its capacity to provide insights into participants' views and opinions (Bryman, 2012, p. 471). Each librarian was interviewed on the telephone for approximately 20 to 25 minutes, using this semi-structured method, to enable them to comment openly from personal experience on the topic. The overall aim of the interview therefore, was to get detailed individual opinions on levels of collaboration actually taking place and to gauge librarians' readiness for the type of collaboration that is referred to in the library standards with the aid of educational technology in T&T.

The conduct of the interviews was guided by a list of issues to be covered on the topic. An interview guide was prepared by the researcher to address specific issues (Bryman, 2012, p. 472) together with scheduling time, and this was given to the participants before the scheduled interview to provide them with an opportunity to prepare their responses. Even though the possibility of altering the questions during the actual interview could arise, the questions were formulated to enable the research question be answered in any eventuality (Bryman, 2012, p. 473). Practical details from the literature for self-preparation were followed such as the scheduling of a time period (for the interviews), the recording of the interview and practicing before the actual interviews (Bryman, 2012, p. 473; Pickard, 2013, p. 196).

3.6.1 Pilot Study

Pilot interviews were conducted with two fellow librarians from nearby colleges two (2) days before the actual interview using the speaker option of the telephone. The fellow librarians were asked to read through the interview consent form (Appendix H) and give feedback on its clarity as well as give their opinions on the questions listed. The feedback on the consent form was that it was straightforward and didn't appear to be misleading. However, there were some problems with three (3) of the questions on the interview schedule, one of which was removed because it was not clearly understood. Both questions 3 and 7 had to be restructured to be made clearer. Taped using a digital voice recorder, the quality of the recording was good, except for a little noise in the background. More practice was done with the voice recorder before the actual interviews were conducted.

In spite of the pilot conducted mere days before the actual interviews however, question 6 was somewhat unclear to one of the participants and had to be explained. Twenty (20) questions were asked (Appendix I) and these were all based on the aims and objectives of the research, which was informed by the themes raised through the literature review. All questions were open ended with the intention of getting the participants to comment openly and in detail from their personal experience.

3.7 Methods of data analysis

Results from the questionnaire hosted on eSurvey Creator (Appendix F) were exported in PDF format for analysis, and to Microsoft Excel spread sheet for the creation of tables and graphs. Qualitative comments from questions 18 to 20 were also exported to be analysed together with the interviews (Appendix G).

The telephone interviews were completed using the speaker mode of the telephone, and recorded using a digital voice recorder. The recorded data files were then uploaded to a personal computer using a cable connection and the files voice activated for transcription. A high quality playback mode was used to transcribe the data. After transcribing the telephone interviews into Microsoft Word, the transcripts were reviewed for accuracy. Each transcript was then read and analysed for key themes and concepts (Bryman, 2012, p. 13; Pickard, 2013, p. 271), some of which would have been identified during the literature review. This process involved making notes in the margins of keywords and short phrases that summed up what was being said and formed the basis for themes and categories emerging from the interview transcripts and quantitative questions (18 – 20) from the questionnaire. To verify and qualify these themes and categories, the process was repeated to confirm them and to identify any further themes. This initial open coding was refined into a final thematic coding framework and is provided in Appendix L. A partial sample interview coded transcript is provided in Appendix J.

3.8 Ethics

This research was approved following the acceptance of the proposal, the planning, progress and conduct of which adheres to the Aberystwyth University policies for Ethical Practice in Research and the DIS Ethics. The ethical issues in social research focuses mainly on whether there is ‘harm to participants’; ‘lack of informed consent’; ‘invasion of privacy’; and whether ‘deception’ is involved (Bryman, 2012, p. 135).

For this research, informed consent to use the network for the online questionnaire was gained through official request from the Director of Information Services via a written letter. This letter explained the nature of the study and the need to use NALIS’s network to access

school librarians (Appendix C). Participants for the questionnaire were informed via an invitation email (Appendix D), which stated the purpose of the research, as recommended in the literature to avoid deception. The purpose of the research was also stated at the top of the questionnaire. To ensure and maintain confidentiality of data and anonymity of participants at all times, their names, schools and any correspondence was securely stored. These participants were provided with a link to an anonymous survey and the IP addresses were not collected, as this feature was disabled when designing the online survey. Only the researcher had access to the responses.

Informed consent factored into the interviewee's participation as they were sent consent forms together with the interview guide, via email. Participants were asked to sign these forms and return by scanning the signed form via email. They were also aware of their right to withdraw from the research at any time without giving a reason (one did withdraw, but gave reason). All information derived from the interview was stored on a protected file and backup made to an external drive, while online questionnaire results were deleted after usage.

3.9 Limitations

Given the time constraints at the time of this research, the 50% response rate from the sample used will be considered 'good' measure and the results can be considered statistically valid (Bryman, 2012, p. 675). However, one reason for the response rate may be the time of the year this survey was administered. The survey ran from the 01st to the 22nd December, basically when the school term was closing and staff would be preparing for the Christmas holidays. At this time school librarians would be busy completing end of year reports and planning activities for the new term and their Christmas shopping. In retrospect, the questionnaire may have had a greater response rate if it had been dispatched at least 2 – 3

months prior, with a second follow up email and possibly an incentive, given the Christmas spirit. One respondent did not complete all the questions on the questionnaire. While the incomplete survey was low (1 in 20), it did affect some of the results presented for certain questions, however it did not take away from the overall results presented.

On hindsight, no questions were placed in the questionnaire to gather information on the actual level of collaboration practiced within the schools and this was a major part of the research. Although this information was gathered from the qualitative interviews, more should have been gathered through the online questionnaire.

3.10 Summary

This chapter has discussed the mixed methods research approach utilized for this study through the use of online questionnaires and telephone interviews, both of which were outlined fully. Justification was given for the purposeful sampling strategy used for the administration of the questionnaire, as three school librarians participated in telephone interviews. Methods of data analysis, ethical issues and limitations of the data collection were also discussed, the results of which are provided in the following chapter.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the findings of the study derived from the online questionnaire and the telephone interviews. The first section looks at the demographics of participants and is followed by the results of the questionnaire and the telephone interviews, which answers the objectives of the study. The data is provided under these headings:

- Demographics
- Role of collaboration
- Factors for collaboration:
- Forms of Collaboration
- Challenges and Barriers
- Skills in educational technology
- Educational technology in collaboration

Where the results are presented in terms of percentages, the figure has been rounded to the nearest whole figure. Direct quotations from participants are displayed in italics.

4.2 Participants

4.2.1 The survey

The online questionnaire was sent via email through NALIS's network of school librarians to forty (40) selected school librarians (persons in charge of school libraries) within Trinidad and Tobago, twelve (12) from denominational (government assisted) secondary schools and twenty-eight (28) from government secondary schools (See Table 4.1).

Librarians at Government Secondary School	Librarians at Denominational Secondary School (Government Assisted)	TOTAL
28	12	40

Table 4.1: Number and characteristics of persons surveyed

The sample represents school librarians only, thus the data will allow for definitive findings to be generated (Bryman, 2012, p. 201). From this sample of 40 participants, twenty questionnaires were completed, comprising of 8 librarians from denominational secondary schools and 12 librarians from government secondary schools, giving a response rate of 50%. The non-response rate equally is 50% of the participants.

Of the response rate, 19 were totally completed and 1 was partially completed. The percentages in the results therefore refer to the questions that were answered for each individual question, as analysis is at the level of questions answered. From the first email invitation to complete the survey, 14 responses were obtained, and with one reminder email sent out (on 17th December), an additional 7 responses were obtained. (Figure 4.1 shows this participation by school category).

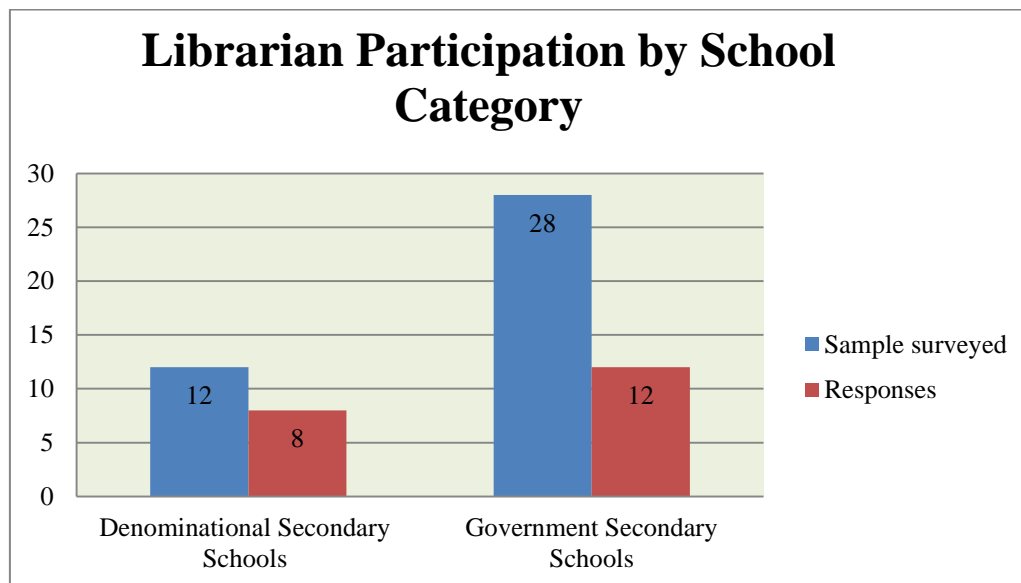


Figure 4.1: Librarian Participation by School Category

Even though there was a higher completion rate by denominational schools, 8 out of 12 completed (67%), than the government schools 12 out of 28 (43%), the overall participation by government schools still outweighed that of the denominational schools, 12 out of 20 (60%).

4.2.2 The interviews

Semi-structured telephone interviews were conducted with three (3) school librarians, two from government secondary schools and one (1) from the denominational secondary school category. The same questions were asked to each librarian and were analysed thematically together with the qualitative questions (18 – 20) from the questionnaire.

4.3 Quantitative findings

4.3.1 Demographics

Participants were asked to select the number of years as a practicing school librarian (person in charge of a library), grouped in ranges of five years, to indicate the level of experience at this post. Responses ranged from 0 -5 years, to over 15 years' experience as a school librarian, and notably visibly is the 6 – 10 year range that most respondents fall into, as can be seen in Figure 4.2 and is further analysed by school category in Figure 4.3 to show the level of experience positioned within the schools.

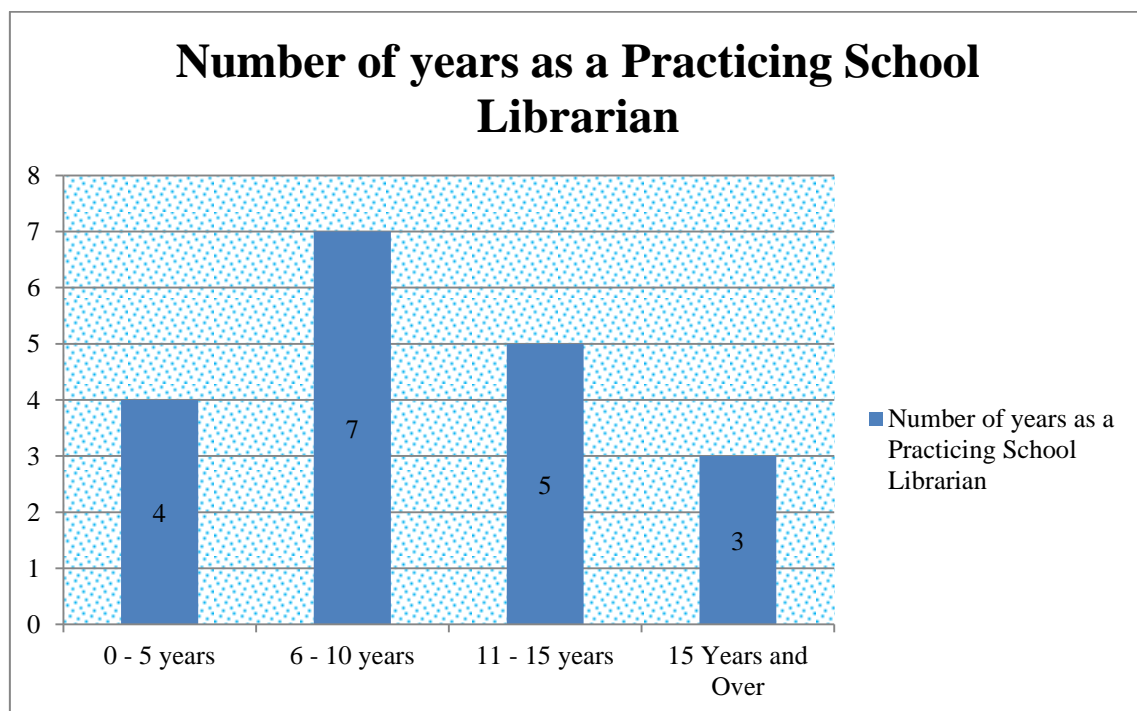


Figure 4.2: Number of years as a Practicing school Librarian

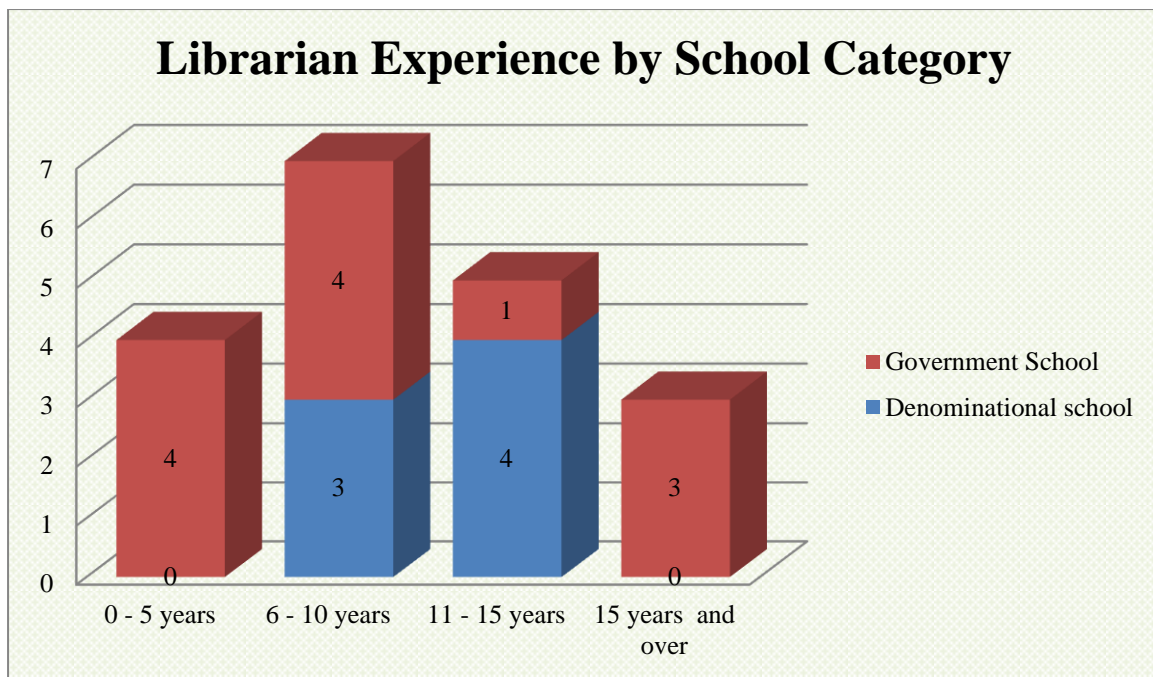


Figure 4.3: Librarian Experience by School Category

4.3.2 Role of Collaboration in Information Literacy Instruction

Librarians were asked whether they played a major role in collaborating for the teaching of information literacy. As Figure 4.4 shows the majority, 15 respondents (75%) said yes, while 4 respondents (20%) said no – they did not play a major role in collaboration. One (1) respondent did not answer this question

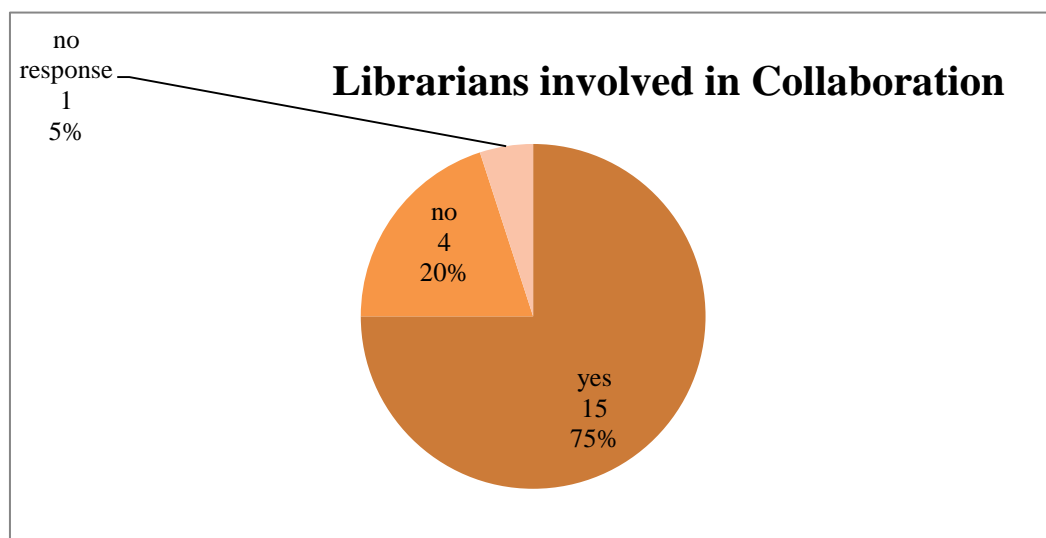


Figure 4.4: Librarians with a role in Collaboration

Collaboration between librarian and teacher is essential as information literacy skills cannot be taught in isolation. They need to be integrated or embedded into various teaching units for students to fully grasp information literacy concepts. When asked how often collaboration takes places, the majority of respondents 40% (8) answered that it was mostly flexible, planned according to teacher and librarian needs and for use of resources, while 30% (6) collaborated only for fixed classes, namely library classes. Of the remaining respondents who chose the 'other' category 25% (5), this represented responses such as 'both methods used'; 'occasional'; 'only when requested by librarian'. This can be seen in Figure 4.5.

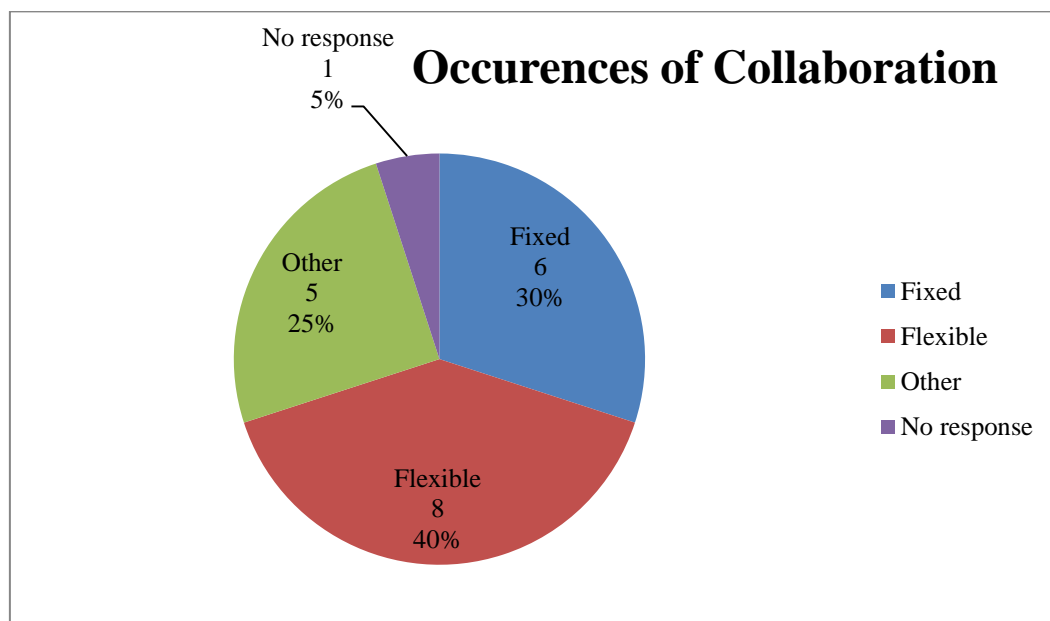


Figure 4.5: Occurrences of Collaboration

4.3.3 Factors for Collaboration

Question seven (7) used the Likert scale to gauge librarian's readiness for collaboration, on a scale of 1 being 'strongly disagree' and 5 being 'strongly agree' for various statements.

When asked if they had a thorough understanding of the information literacy standards for student learning, (12) 60% 'agreed' and (4) 20% 'strongly agreed'. While (2) 10%

'disagreed' as well as 'neither disagree nor agree', nobody 'strongly disagreed'. For answers to having a broad knowledge of my school's curriculum, (14) 70% 'agreed', nobody

‘strongly disagreed’. However, this pattern changed for the statement on awareness of instructional styles of teachers as the majority (7) 35% ‘neither disagree nor agree’ with (5) 25% and (3) 15% respectively ‘disagree’ and ‘strongly disagree’. The results of the other four (4) statements can be seen on Figure 4.6 which shows the respondents responses to each statement. From the chart one can see that the scale ‘agree’ was mostly used indicating a high level of readiness for collaboration from the Librarian’s perspective.

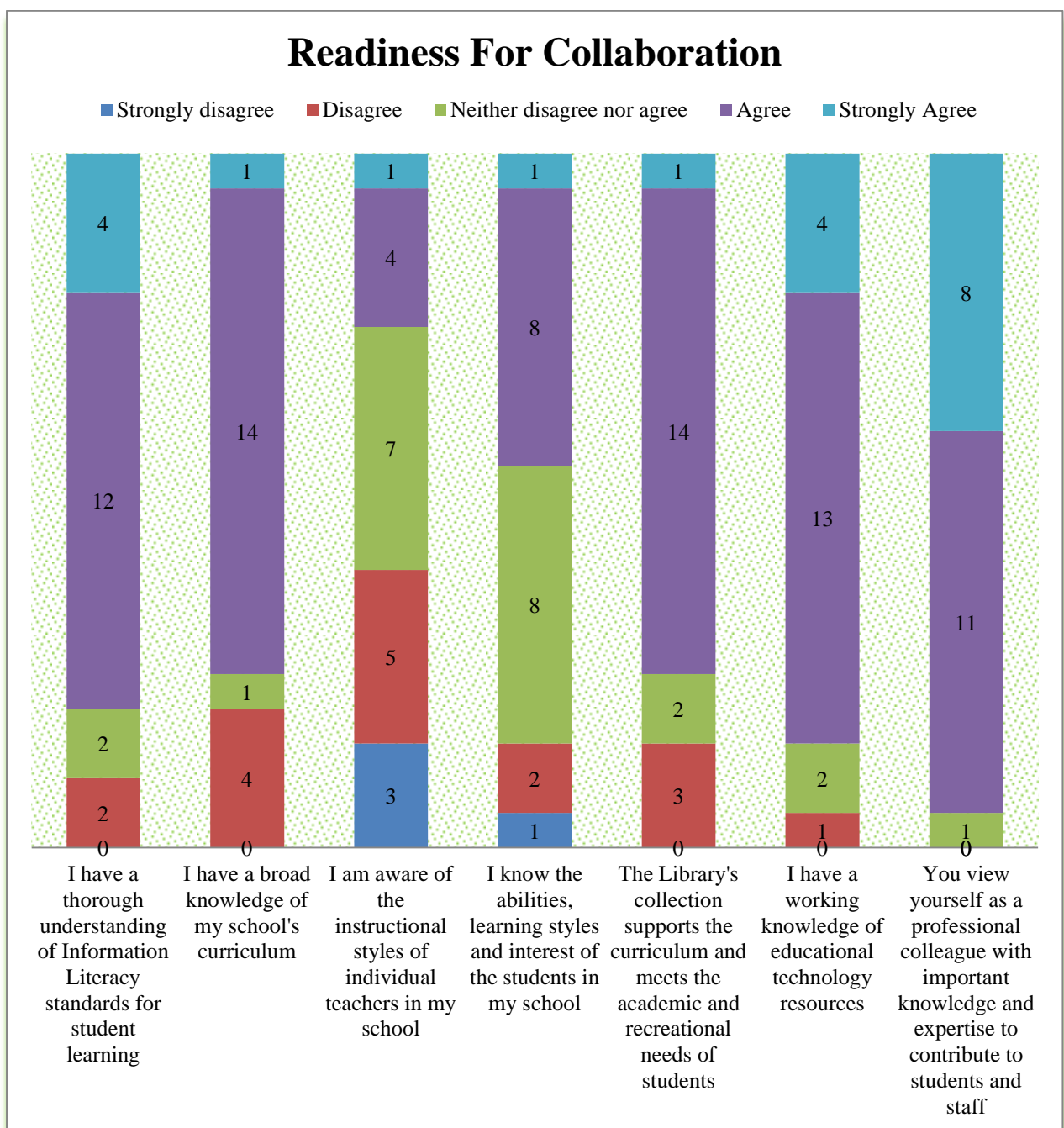


Figure 4.6: Readiness for Collaboration

Overall Readiness for collaboration by school category

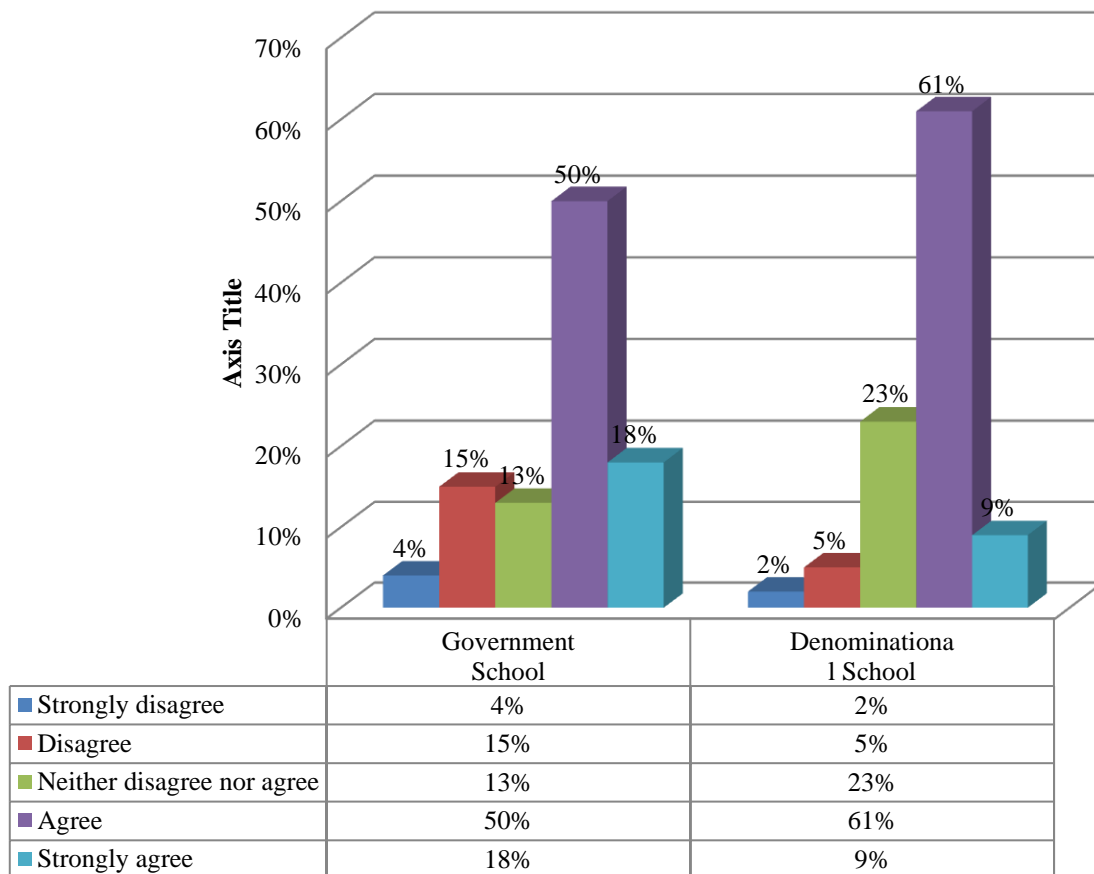


Figure 4.7: Overall Readiness for collaboration by school category

Comparison of both school categories in this area show that librarians in the denominational schools have a higher percentage of readiness for collaboration than in the government schools (See figure 4.7).

Support for collaboration is another factor that was tested in the questionnaire at question 8. Six statements were provided to test if there were support for collaboration at the secondary schools using the Likert scale, on a scale of 1 being 'strongly disagree' and 5 being 'strongly agree' for various statements, and can be seen on Figure 4.8. When asked if administration is supportive and fosters a collaborative spirit, (7) 35% 'agreed' and (5) 25% 'neither disagree nor agree'. While (4) 20% 'disagreed' as well as 'strongly disagree, nobody 'strongly agreed'. 40% of respondents (8) 'neither disagree nor agree' that the school principal ensured that teachers collaborated with the librarian for lesson planning, while a combined 45% of respondents (9) 'disagree and strongly disagree'. 15% of respondents (3) 'agreed or strongly agreed'. When it came to the provision of resources the majority 75% of combined respondents 'disagree and strongly disagree', with 20% of respondents (4) in the 'neither disagree nor agree' category. One respondent (5%) selected the 'strongly agree' range.

From the librarian's perspective the combined majority of 90% 'agreed and strongly agree' that they take the initiative to pursue relationships with the teaching staff to promote collection development, teaching and learning. None of the respondents 'disagree' or 'strongly disagree' with this statement. Daily allocation of time to plan activities received a combined majority of 75% (15) in the 'disagree and strongly disagree' ranges with no one in the 'strongly agree' range. From figure 4.8 it is clear to see that the majority of respondents 'disagree' that there is overall support for collaboration from administration as evidenced from the questionnaire. There is however, strong support from the librarians as evidenced by the 90% (combined) that take the initiative to pursue relationships with the teaching staff.

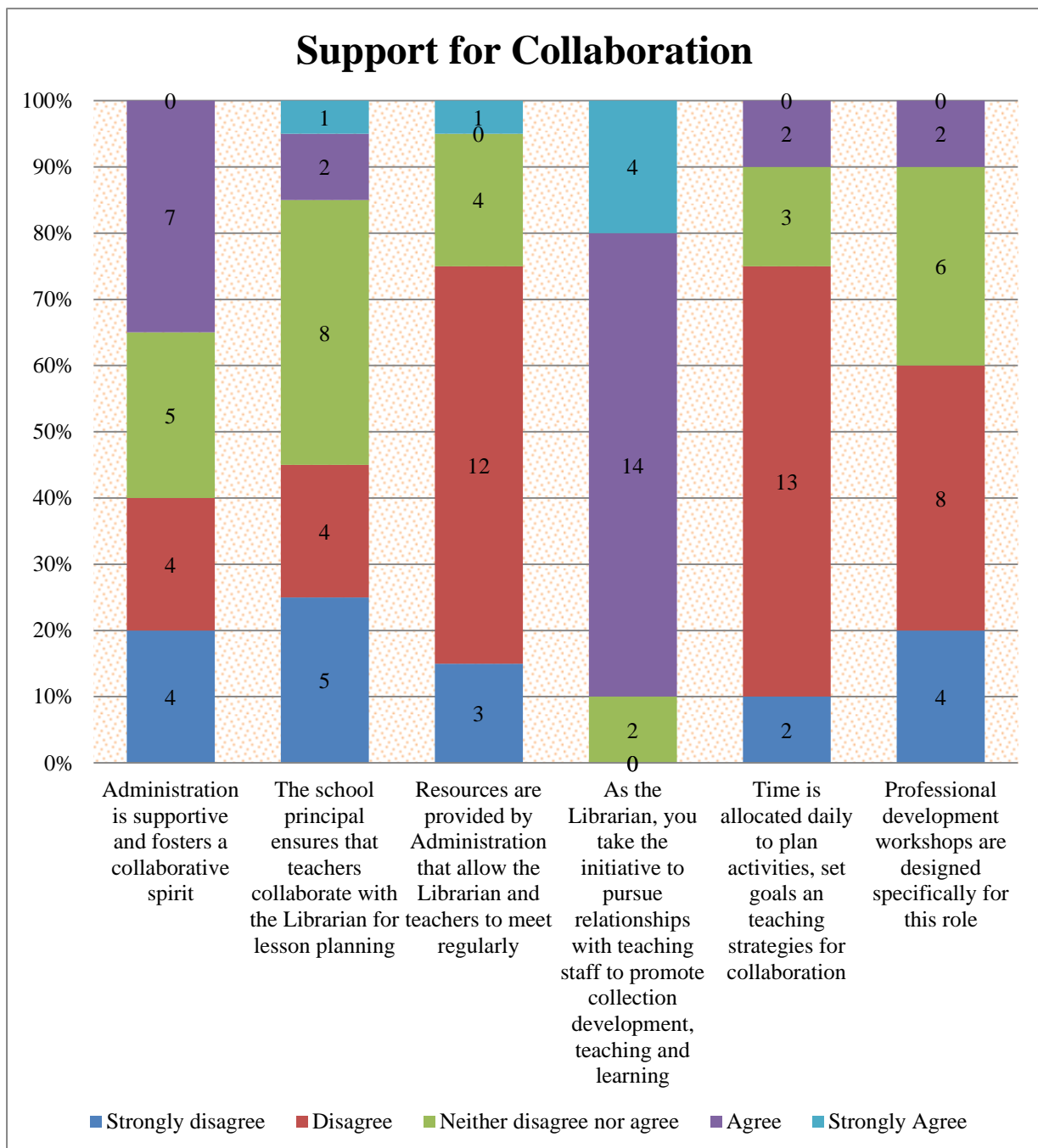


Figure 4.8: Support for Collaboration

Cross tabulation of the factors for collaboration show that the majority of school librarians in both categories are ready for collaboration, but the support for it is not available. Looking at the statistics provided in Figure 4.9 there appears to be more support provided in the government schools, while the librarians in the denominational schools are in a higher state of readiness than their counterparts in the government schools. Statements 1 – 7 of question 8

and statements 1, 2, 3 and 5 of question 10 of the questionnaire are used to assess the degree of association between both sets of variables.

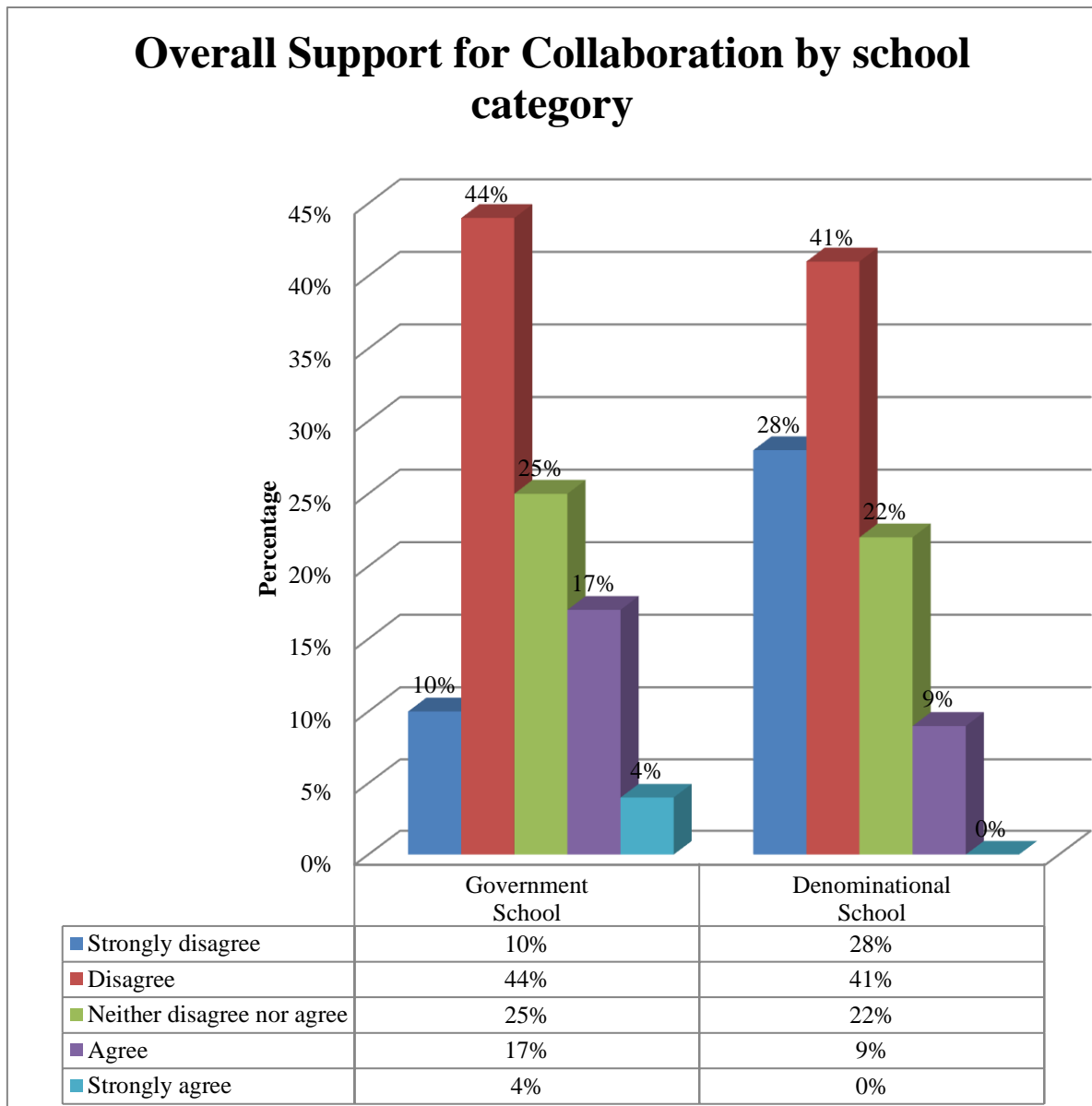


Figure 4.9: Overall support for collaboration by school category

4.3.4 Forms of Collaboration

From the questionnaire we know that collaboration occurs mostly flexible for use of resources, with a smaller number of fixed collaborations for scheduled library classes. No specific form or level of collaboration data was captured in the questionnaire; however it is included in the findings from the semi-structured interviews.

4.3.5 Challenges and Barriers

This data collected from the questionnaire (qualitative in nature) will be presented together with the findings from the semi-structured interviews.

4.3.6 Skills in educational technology

Respondents were asked within their readiness for collaboration question if they had a working knowledge of educational technology resources for which a combined 17 respondents (85%) 'agree and strongly agreed'. Two (2) respondents (10%) 'neither disagree nor agreed' while 1 respondent (5%) disagreed. See table 4.2.

Statement	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I have a working knowledge of educational technology resources	0	1	2	13	4

Table 4.2: Working knowledge of Technology by Librarians

When asked to rate their overall skills in using educational technology however, fourteen (14) of the respondents (70%) indicated that they were proficient and 1 (5%) indicated their overall skill as being advanced. Of the remaining 5 respondents, 4 indicated 'basic' skill and 1 respondent indicated 'below basic'. This breakdown is shown in Table 4.3 and displayed in Figure 4.10.

Overall skills	Frequency	Percent
Below Basic	1	5%
Basic	4	20%
Proficient	14	70%
Advanced	1	5%

Table 4.3: Technology skills of Librarians

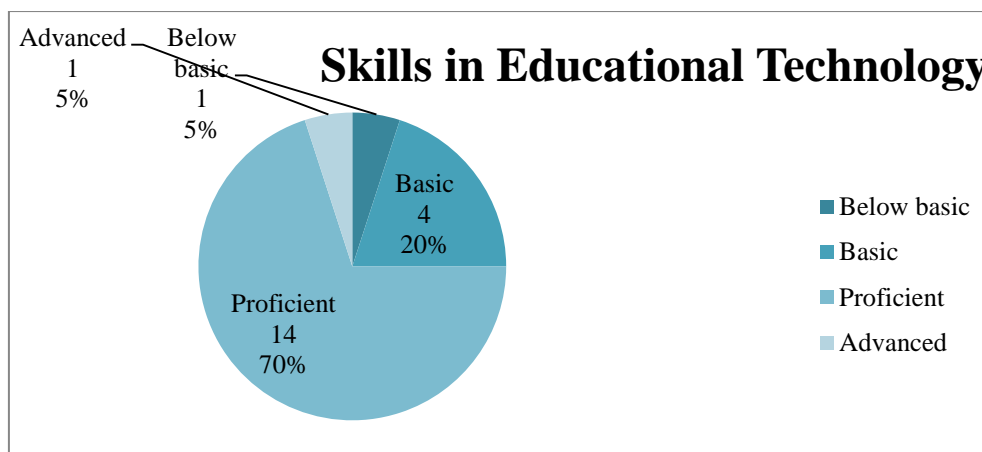


Figure 4.10: Skills in Educational Technology

Of these respondents, 75% (15) rated the training they received in educational technology as 'adequate'. Of the remaining 5 respondents, 3 (15%) rated the training as inadequate and 2 respondents (10%) stated that no training was received (See table 4.4).

Training Received	Frequency	Percent
No training received	2	10%
Inadequate	3	15%
Adequate	15	75%

Table 4.4: Rating of Technology Training

Given that educational technologies are dynamic and keep changing with time, it was important to note what current technologies were being used by Librarians. When asked to identify the software currently used in their information literacy classes, responses were varied, as they could select multiple answers. Of the 19 respondents, the most frequently used technology (by 17 respondents) was Microsoft Word, Excel and PowerPoint. Table 4.5 shows the current technology used by Librarians.

Technology (Software)	Frequency
Websites	12
Microsoft Word, Excel, PowerPoint	17
Google Docs	6
Wikis	5
Other (You tube)	1
None of these	1

Table 4.5: Technology (software) currently used

4.3.7 Educational technology in Instruction

Respondents were asked if they currently taught information literacy skills with the aid of educational technology and 55% said yes, while 35% said no. The remaining 2 respondents chose the 'other' option, for which one response was 'sometimes' and the other responded 'no equipment is available'. When asked further if they used technology during collaborative teaching sessions, there was a shift in response rate as can be seen in Figure 4.11.

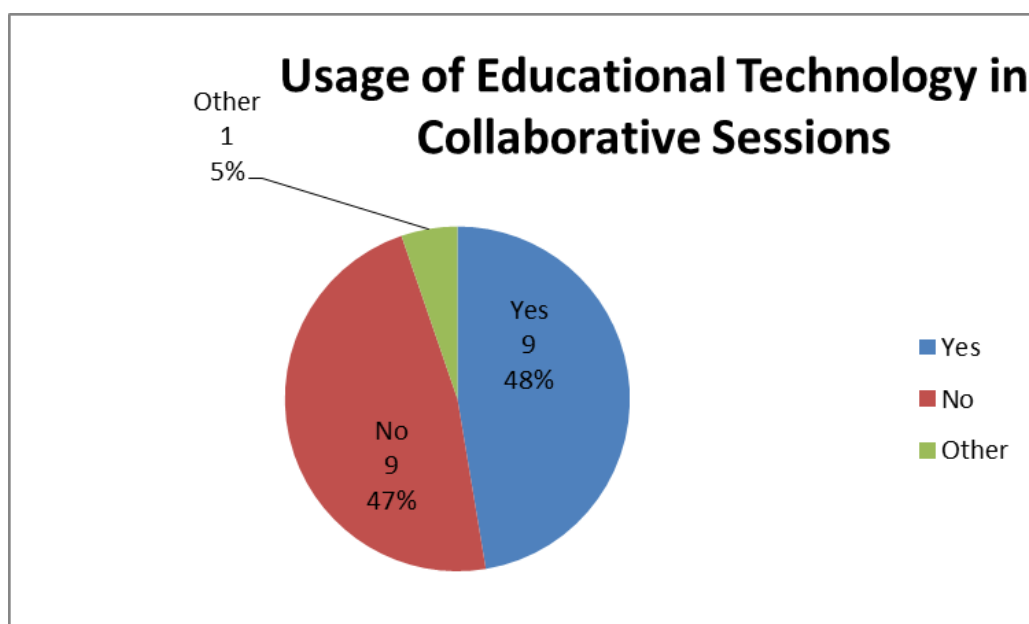


Figure 4.11: Usage of technology in collaborative sessions

The Likert scale was again used to weigh statements on collaboration with the aid of educational technology. Respondents were asked if the school had the necessary technological capabilities to support 21st century learners. A combined 65% chose the ‘strongly disagree and disagree’ options. 20% or 4 respondents ‘neither disagree nor agree’ and 3 agreed. No one chose the ‘strongly agree’ option (See table 4.6).

Statement	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
The school has the necessary technological capabilities to support 21 st century learners	7	6	4	3	0

Table 4.6: Technological capabilities in school

To support the statement above, Table 4.7 provides the following technology (hardware) which was identified by respondents as the technology in which they had access to at the library/school. Respondents were able to select multiple responses.

Technology (hardware)	Frequency
Overhead projector	9
Interactive whiteboard/smart board	3
Digital cameras	11
Scanners	11
Personal computers/laptops	18
None of these	2

Table 4.7: Technology (hardware) available at schools

This data identifies the limited technological hardware available at the secondary school for use by school librarians for collaboration. Respondents were asked about their familiarity with the ethical issues related to the use of information and communication technologies and 55% ‘agreed’ with 15% ‘strongly agree’. There were however, a combined 10% who ‘strongly disagree and disagree’, 2 respondents. On a positive note, the last statement engendered 95% of the respondents were willing to collaborate with teachers using multimedia technology to support instruction. The response to these statements relating to collaboration with teachers using technology can be seen diagrammatically on Figure 4.12.

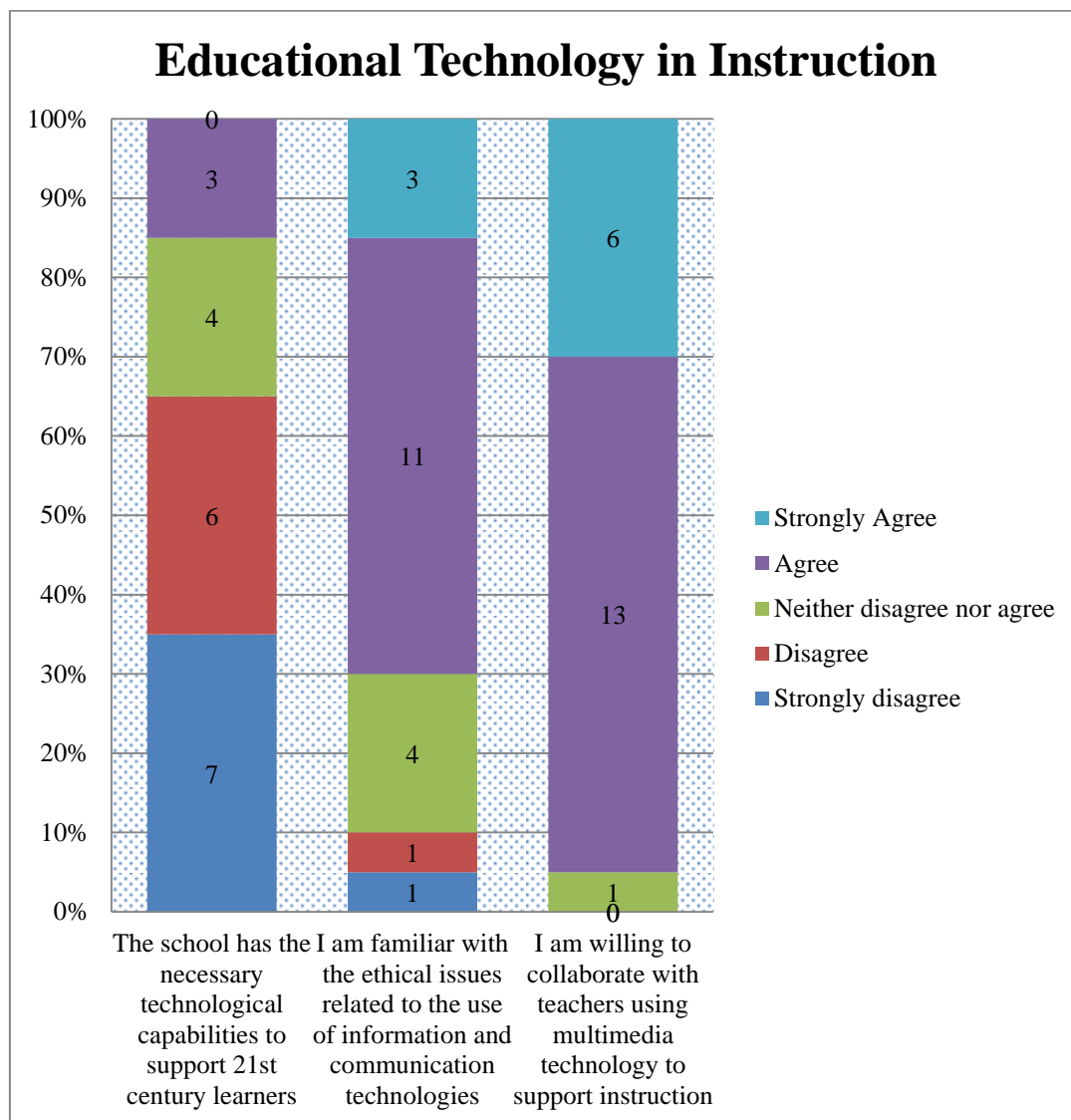


Figure 4.12: Educational technology in instruction

4.4 Qualitative Findings

The telephone interviews were conducted with school librarians to support the findings within the questionnaire and were analysed thematically together with qualitative comments from the questionnaire (Appendix G). The semi-structured format of the interviews allowed for emphasis to be placed on specific themes (probing where needed), especially to capture opinions and experiences on the level of collaboration that currently exist as this was not captured fully within the questionnaire. Focus was placed therefore, on collecting data on any gaps in existing themes, as well as any new themes identified within the topic.

Transcripts of the interviews were then coded. Initial coding involved using keywords and phrases to identify the emerging themes from the interviews and the qualitative questions (18-20) from the questionnaire. (See Appendices J and K). After this was completed, all the keywords and short phrases were collected on a clean page (Word document) to work through the listing. All duplications at this time were crossed out to produce a shorter listing and search for overlapping or similar categories. Themes and ideas from the literature review informed these categories and were used to group them together to form the final coding framework. This was then colour coded (Appendix L) and applied to the transcribed interviews and qualitative questions (18-20) from the questionnaire.

4.4.1 Role of Collaboration in teaching Information Literacy

All three interviewees working within the NALIS body had varied experiences with collaboration as part of their librarian role and function. While they held the opinion that collaboration with teachers was a necessary part of their role, one interviewee expressed it as something that was expected of them:

‘Because it listed on our position description so it is something we are expected to do.’ (Interviewee A)

Various questionnaire respondents however, gave their view of teacher's perception of librarians being *'just responsible for books in the library'* and *'the mind-set that librarians do not possess the skills not the place of the librarian teaching is the teachers' job'*.

While it was felt that it was a major part of their role in teaching information literacy skills to students, especially teaching of Big6 skills they lamented that it did not happen often enough:

'It does not really happen as often as I think it should' (Interviewee A)

One interviewee went as far as saying:

'It's a major activity, or rather it's supposed to be a major activity but its more on paper than in reality' (Interviewee C).

In contrast, the librarian from the denominational school, while in agreement with the others did not comment negatively on its frequency. She agreed it was a major part of their role in teaching information literacy skills and further stated that teachers would come to her with ideas for collaboration:

'At my school there are a couple of teachers who come with their ideas for areas we can cover together. One lit teacher especially, I really like her, I think she is British, she always comes up with something for us to do together' (Interviewee B)

However, she concluded by saying that although they would collaborate with her, it was mostly on their terms, and did not include any co-planning or assessment of activities.

4.4.2 Frequency of collaboration

When asked how often collaboration occurs, all interviewees commented that it was mostly for scheduled library classes with the form 1 and 2 students. According to one librarian:

'It's only the form 1's that have scheduled library classes so the collaboration is really to teach them Big6 skills' (Interviewee C)

Another librarian however, stated that it while it happens mostly for the scheduled classes, it also happens for the higher students when they are completing their school based assessments (SBA) for external examinations and need help with completing the research:

‘It mostly happens to the assigned form 1 and 2 library classes, however, around SBA season, it may happen for the forms 4 and 5 ‘ (Interviewee A).

This was also confirmed by the other school librarian who stated that while it’s mostly for her scheduled form 1 and 2’s, it happens for other higher classes when resources are needed for research papers and assignments. The teachers would check the SLMC for available resources on a particular topic and then ask the staff to compile a listing of those resources so the students can have access to them.

4.4.3 Forms of Collaboration

The actual experiences with collaboration in the teaching of information literacy varied somewhat with each interviewee at their school. While they all agreed that some collaboration with teachers was needed to teach Big6 skills, as it should not be taught in isolation, the level of collaboration and techniques used varied. One respondent stated that they initiated discussion with teachers to get information on any upcoming research they had with students so they could use it to teach the Big6 skills:

‘I would ask them about upcoming research projects they have for the form 1’s and 2’s classes, taking all the details of what they require the students to do. These projects I use with the students to explain the Big6 step by step approach because when they realize that I am actually explaining their project to them, they show more interest and actually understand more.’ (Interviewee A).

Another librarian stated that her teachers were always ‘too busy’ and mostly she would ask the students if they had any projects due and proceed to get initial data from them. Only after getting basic project details would she approach the teacher about the specific project for a class and lay out the specifics to the teacher:

'I have to pursue them teachers to get information on upcoming student projects and only after I explain to them what I want to do they would cooperate a bit. Quite frankly, they not interested in going the extra mile for poor people children. When I try for instance to get them to agree on a format for the bibliography where I could assess, they would agree but they would tell me to let the students do a separate bibliography for me so they won't have that extra work'. (Interviewee C)

In support of this dilemma for project information, one questionnaire respondent stated that:

'Teachers should inform librarians of the projects they intend to undertake for a particular month or term so that the librarian can prepare the resources to meet those particular information needs'

In contrast to the other two interviewees however, the second interviewee though similar to the others seemed to enjoy a greater level of collaboration from the teachers at her school.

According to Interviewee B:

'By the second week of each term I get the projects from the teachers 'plan of action' for the term. I go to the staff room and talk with a few of them teachers who always in the library, and I tell them what I doing with the student and what I need from them. Now they not planning or co-teaching with me or anything like that but I have no problem in getting their information early for me to plan my work' (Interviewee B).

Though they all had varying techniques and levels of collaboration, one thing that was clear was that there was no team teaching or joint assessment with any of the participants.

4.4.4 Factors for collaboration

For collaboration to be successful, there are certain factors that need to be in place.

Questions were asked to gauge librarians readiness for this process as well as the support received from administration. Respondents were asked about their awareness of teaching and learning styles. While all respondents stated they were aware of the various teaching and learning styles, only two (2) had formal training that prepared them for this role, which was conducted over five (5) years ago via a course conducted in partnership with NALIS, at the University of the West Indies. Interviewee A stated that she:

'Attended a 1 year course for school librarians 'Certificate in Education for school librarians'sought to prepare us for this role but it was very brief.

Interviewee B stated: 'that certificate course actually opened my eyes to a bit more than just the teaching and learning styles. What it actually did was put everything in context for me, because sometimes I realised that the students responded differently when I opted to try a new approach to a particular lesson. The use of group work for instance got them really enthusiastic about learning'.

One questionnaire respondent noted however, that:

'Nothing was in place to facilitate different learning style'

The interviewee who did not receive any formal training stated that she just continued doing what she had always done, which was talking to teachers about what resources they would need for their students during the term to support upcoming projects.

When asked if there is a collaborative culture at the various schools, all three (3) responded in a similar manner.

Interviewee A: 'No not really, even though you will get the few teachers to cooperate with you from time to time. There are no protocols in place for collaboration'

Interviewee B: 'The teachers with themselves maybe, but not really with the library staff. Now listen eh..... I get information from their plan of action to work with but that's because I ask for it and have been doing so every term. So they know I am coming and I am persistent'

Interviewee C: 'Not really. Is real politics in my school and them teachers don't really care about the students as far as I see. They don't come into the library and they don't send the students either. A lot of them in it for the pay so they not motivated to go the extra mile for students. The culture of the school itself have to change for anything to happen'.

Respondents feel there is not enough support for collaboration from administration. They mentioned that it was more talk than action:

'At first there was some positive talk. But that's all it was, nothing came from it. No time is allotted for it in the school timetable and teachers often say they don't have time for itspare time' (Interviewee A)

This was also noted by respondents from the questionnaire who noted the following:

'Principal's reluctance to by in';

'Lip service when issues concerning LILC classes are brought up'.

With smaller budgetary allocations to schools, the provision of resources is another factor to consider. According to one interviewee:

'Money is always a problem when the library needs something.....long process to go through.....hence there are not enough resources in the library to meet the needs of teachers'. (Interviewee A)

One respondent from the questionnaire also agreed that there were:

'Not enough resources in the library to meet the teacher needs'.

All interviewees stated that no professional development workshops were provided to assist the role of collaboration in the schools and Interviewee A believed this to be a shortcoming of NALIS's Educational Library Services Division:

'I think this is an area where ELSD has fallen shortthey should provide regular workshops to cover these areas for staff'. (Interviewee A)

Reference was made by two of the interviewees about the certificate course being the only thing that dealt with collaboration between librarians and teachers:

'Because Cert Ed was the only thing that actually covered this topic when we did it in 2010'. (Interviewee B).

Interviewees were asked if their SLMC was well equipped with the necessary resources and equipment that met the school curriculum. All three librarians noted that it was not and further stated that their current resources and equipment were old and out-dated. Interviewee A noted:

'We are still using the same old computers and printers which are in need of upgradingthere is no formal commitment towards resources'. (Interviewee A).

A questionnaire respondent also noted that:

‘Some of the present equipment and resources at school media centres have become out-dated, ineffective and non-functional’.

4.4.5 Challenges and Barriers

Interviewees were asked what they considered as the main challenges they encountered in their efforts to collaborate with teachers, as this question was also asked on the questionnaire. Both sets of responses were compared and it was found that they were similar in nature. The main challenges ranged from time constraints, lack of knowledge of the role of the SLMS and the library, lack of support, status issues, technology issues, school culture and general attitudes of teachers. Time constraints held as a significant challenge for both interviewees and questionnaire respondents, as this impacted on non-collaboration. According to

Interviewee C:

‘Teachers always tell you they real busy trying to finish up the syllabus and they don’t really have that extra time.....they don’t see collaboration as important.’
(Interviewee C).

Another librarian acknowledged it as her biggest challenge:

‘The biggest challenge is actually getting teachers to give of their busy time to plan collaboratively for student learning.’ (Interviewee A)

Eight (8) respondents from the questionnaire commented on time constraints as a challenge for collaboration. Some examples include:

‘Do not see collaboration as important and so do not make time for this’
‘Time is always the factor for non-collaboration’
‘Time to do so is also a challenge’
‘Teachers are very busy.....no time is really available for collaboration.’

Lack of knowledge of the role of the SLMS is another challenge that was significant for both interviewees and questionnaire respondents and would have accounted for teacher’s

unwillingness and negative attitudes. According to Interviewee B, her biggest challenge was making teachers aware of the role of the SLMS and the library in general:

'Everytime those teachers need a few periods to complete their syllabus, they automatically suggest using the library classes. Is that because the LILC classes are not important enough? Then why schedule them in the first place?'

Some questionnaire respondents had this to say for this challenge:

'Teachers are not aware of the librarian's role in a school, mainly because they have lacked this experience.'

'Teachers not really understanding how important library services are in student development.'

'They are here to keep the students quiet.....and.....to pack books.....they are not aware of the educational qualifications of school librarian.'

All three interviewees spoke about the status issue as a challenge, since teachers and librarians are not on equal footing in T & T. Interviewee B spoke about teachers being in a higher pay category than school librarians, hence the difficulties in efforts to collaborate:

'Plus teachers in a much higher pay bracket than us so even though we might be more qualified than some of them, they hold a different esteem than us.' (Interviewee B).

As one respondent in the questionnaire stated:

'They are not aware of the educational qualifications of school librarians and as such think they are incapable of being teachers.'

The available technology itself was a challenge as librarians lamented the old technology that needed to be upgraded, as it could not support 21st century learners:

'The existing equipment in school need upgrading.....not just the hardware but the software too.' (Interviewee A)

Some questionnaire respondents also gave similar comments on this issue:

'Some of the present equipment and resources at school media centers have become out-dated, ineffective and non-functional.'

In general, all the respondents from both the interview segment and the questionnaire agreed that the culture of the school impacted on the collaborative process and led to the existing attitudes of teachers towards collaboration.

4.4.6 Technology in Instruction

No actual collaboration incorporated the use of technology, but LILC classes incorporated basic software and hardware applications. This was confirmed by the interviewees who acknowledged using mostly Microsoft Word and PowerPoint presentations with a projector for their LILC classes only:

'We use the projector to show PowerPoint presentations or demonstrate the databases through the Internet.' (Interviewee A)

'Collaboration with the use of technology would mean some level of team teaching and we are not quite there yet.' (Interviewee B)

4.5 Summary

The results from the interviews generally support the findings from the questionnaire. School librarians do attempt to collaborate with teachers for the library information literacy classes despite the various challenges they face all around them. The lack of technology used in collaboration supports the gap that exists in the literature as it refers to collaboration using educational technology. These results will be discussed further within the context of the literature reviewed in the following chapter.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter will compare the results from the research methods with the literature reviewed on librarian and teacher collaboration in order to fulfil the research objectives. The findings obtained, as perceived by school librarians in T&T will be identified with the general literature to determine its significance and value, with comparison of results by school category. The main challenges and barriers and technology skills and abilities of SLMS will be examined in line with the literature to determine their readiness for collaboration using 21st century technology. Suggestions for future research will be made, as well as recommendations developed to support future collaborative efforts between SLMS and teachers in T&T, with the aim of impacting on student achievement.

5.2 Collaboration practices

It is of great significance that 15 out of 20 questionnaire respondents (75%) stated that they played a major role in collaborating, given that collaboration is a ‘foreign practice in many of our schools (Aronson, 1996, p. 1), faced with many challenges. On the contrary, the 20% of school librarians (4) who did not play any major role in collaboration is substantiated by the literature on non- practice of the collaborative process (Moreillon, 2013, p. 56). When asked how often collaboration happened, 30% of the questionnaire respondents said it was only for fixed/scheduled library classes and teaching of Big6 skills, while 40 % stated it occurred on a flexible basis – mostly for the use of library resources to fulfil an information need. Given that collaboration for information literacy purposes is about the mutuality of intent, where both SLMS and classroom teacher work together to develop deep knowledge and understanding (Todd, 2012, p.9, cited in Callison, 2015, p. 20), a scheduled structure may not be ideal for collaboration to take place, as commented on by questionnaire respondents.

Longer periods have been recommended to enable SLMS to ‘teach a lesson and still have time for students to apply what is learnt to a real problem’ (Geiken, Larson and Van Deusen, 1999, p. 3). School librarians however, have to be content with any schedule that is determined for them as it is out of their control as substantiated in the literature (Austin and Bhandol, 2013, p. 19; Hartzel, 2002, p. 96).

Findings from interviews conducted with school librarians indicate that they engage in low level collaborative practices of cooperation and coordination as described in the literature (Montiel-Overall, 2009, p. 190; AASL, 2001, p. 37). The essence of these practices are for use of library resources and to teach Big6 skills, using individual techniques with teachers as no instructions are given as to how it should be accomplished. While collaboration is a desired approach, ‘many teachers and librarians were never taught successful techniques or strategies for being part of a collaborative team or effort’ (Holmes and Tobin, 2005, p. 40; Moreillon, 2013, p. 56), and there is little research to define specific practices that could lead to successful collaboration (Montiel-Overall, 2007, p. 277).

90% of the questionnaire respondents (18 out of 20) stated that they took the initiative to form relationships with teaching staff. It seems clear that although school librarians initiate contact with teachers in their attempts to collaborate lesson plans, teaching remains an individual process as noted by Aronson (1996, p. 1). One interviewee responded that *‘teachers don’t consider what we do with the students as important as what they do’* (Interviewee C). Equality is an essential aspect of collaboration (Aronson, 1996, p. 2), and once identity continue to be an issue, true collaboration with planning and team teaching will continue to be invisible. Hence, there is no team planning or teaching as identity is still therefore seen as an active part of this process.

The variation of the results were not unexpected, as much has been stated in the literature on the ‘what’ of librarianship but little of the ‘how’ to do it (Moreillon, 2013, p. 56). Hence the various methods employed for collaboration, according to the conditions of each school are justified. While school librarians are saying yes they are collaborating with teachers, the researcher has determined from this research they are actually practicing a low level form of collaboration, that of cooperation and coordination. This level of collaboration is mostly for debriefing of assignments and use of resources for an information need, without any form of planning or sharing of activities and assessment. It is therefore difficult to assess whether current collaborative efforts are related to improved student academic achievement as substantiated by Moreillon (2009, p. 182).

5.2.1 Comparison by school category

Questions arise out of the different approaches to the collaborative process in secondary schools (Aronson, 1996, p. 1). The findings show that the SLMS in the denominational schools have a higher level of readiness as well as support for collaboration than in the government secondary schools, as these teachers acknowledge in some small way the importance of collaboration in the teaching of information literacy instruction. This suggest a level of understanding and support for the teaching and learning activities that can transform how students learn as evidenced in the literature (Aronson, 1996, p. 2). If the SLMC is to be seen as a vital part of the education process, collaboration is a vital ingredient, and the learning needs of students must be a priority for all.

5.3 Challenges and Barriers

The numerous responses provided when asked about challenges encountered in collaboration efforts substantiated the practice of collaboration itself as a challenge to the norm of teacher

working individually, as advocated by AASL (2001, p. 40). As the data from the questionnaire and the interviews was analysed, certain barriers were identified more frequently than others and overall themes from the literature emerged.

5.3.1 Resources

The majority of challenges and barriers identified in this research are related to resources.

Time, as noted by Aronson (1996, p. 3), is the most frequently noted challenge that prevented teachers' involvement in the collaboration process. All three of the interview participants highlighted the challenge of 'time constraints' with regards to collaborative relationships with teachers. Questionnaire respondents commented on teachers not having enough time to work with them in planning lessons integrated with information literacy because of the various other tasks they are responsible for, namely completion of the syllabus. Multiple respondents from the questionnaire noted *'time is always the factor for non-collaboration'; 'teachers not willing to devote their time to this' ; time to do so is also a challenge; no time is really available for collaboration as teachers are always busy'*.

Time constraints were also closely tied to the barriers of a fixed schedule for the delivery of library classes. Comments from respondents included *'timetabling of classes'; 'poor administrative scheduling of the school timetable in relation to scheduling classes to be taught proper research skills or to use the relevant resources, thereby causing time constraints such as limiting of assigned periods to conduct live demonstrations of relevant resources..... which may take longer than thirty-five/forty-five minutes allocated for one period'*. Identified as a constraining factor (Geiken, Larson and Van Deusen, 1999, p. 3) the fixed scheduling of classes left no flexibility to collaborate with teachers, taking into context other elements such as length of the period and the number (amount) of periods assigned to

library classes, which were out of their control (Austin and Bhandol, 2013, p. 19; Hartzel, 2002, p. 96). Notwithstanding of course, a flexible schedule could just as well be taken for granted and benefits not recognized at all.

These findings align with the literature which notes that time is an issue for all teachers, with too much to do in too little time. ‘Time is a barrier when priorities are not clearly established’ (Johnson, 2012, p. 19) but it is difficult for teachers to find adequate time during regular school hours to take on the extra tasks often associated with collaboration planning.

Lack of technology resources was also identified frequently as a challenge. These included an insufficient quantity of resources, out-dated equipment in need of upgrade, and lack of fully operational equipment, all of which were out of their control. This finding aligns with the literature which notes that deficiencies in technology are sometimes tied to low funding (Johnson, 2012, p. 19). This lack of technology was mentioned by one interviewee as being tied to lack of planning and funding since the Secondary Education Modernization Program (SEMP) intervention in 2008, as funding is a problem in secondary school libraries in T&T.

5.3.2 Role definition

A lack of knowledge of the role of the SLMS was also identified as a challenge in efforts to collaborate with teachers. Respondents perceived that their role as instructional partner collaborating with teachers was lacking in definition. One interviewee stated her uncertainty in the actual collaboration role and perceived a lack of guidance on how to actually collaborate with teachers to gain their commitment in this process. This lack of role definition is aligned with the literature (Hartzel, 2002, p. 93) and is another reason why SLMS limit their involvement in collaboration practices. As one respondent stated ‘*Teachers*

are not aware of the librarian's role in a school'. Other barriers connected to this challenge include teachers' unwillingness, disinterest and negative attitudes. Because teachers are unaware of the school librarians' role in the teaching of library information literacy curriculum (LILC), attempts to integrate it into subject content are challenging. Lack of communication is a driving force in this situation and is a barrier also commented upon by questionnaire respondents.

This lack of role definition has driven this research from the start and is repeatedly mentioned in the literature of school librarianship as a barrier. 7 out of 20 questionnaire respondents (35%) commented on this as a barrier. This confirms the research by Zmuda and Harada, highlighting the lack of role definition and 'guidance for enactment' of roles by school librarians. Concerns were raised that administrators and teachers have only minimal knowledge of the profession of school librarianship and do not understand the school librarian's role within the school and certainly did not perceive school librarians as teachers (Johnson, 2012, p. 20). When asked about their perception of the teaching role however, 19 out of 20 questionnaire respondents (95%) viewed their role along a similar path as teachers.

School librarians by international standards (UK and USA) are professionals who are mostly certified teachers and hold teaching degrees, referred to as teacher-librarian. In T&T, most school librarians emerged through the ranks from paraprofessional library assistants to school librarians and the teaching environment is unfamiliar to many of them as advocated in the literature (Austin and Bhandol, 2013, p. 29). While they may hold professional librarianship status, they are not certified teachers and are not referred to as teacher-librarians. With the shift in role, the teaching experience has become more prominent, highlighting the international standards found in most of the literature on school librarianship, emphasis

placed on librarian as instructional partner (AASL, 2001, p. 76). As discussed in Aronson, collaboration can re-define roles and responsibilities and remove the ‘barriers of titles that have been created in our schools’ (1996, p. 4).

5.3.3 Support

Findings in this research found that support for collaboration was a constraint as established by over 60% of questionnaire respondents citing the principal as non-supportive. A positive relationship is aligned with the literature which identifies the principal support as vital (Hartzell, 2002, p. 93). When principals have a positive working relationship with school librarians, they serve as a ‘source of support to promote school librarians as instructional partners’ (Johnson, 2012, p. 20). With the opposite established in this research, it factors as a reason why collaboration is practiced at a low level in secondary schools. One interviewee stated she had some encouragement from her principal at first but then was disappointed because it was only ‘lip-service’. Respondents from the questionnaire stated *‘there is lack of support from administration’*; *‘principal’s reluctance to buy in’*; others talk about their opinion not being valued *‘not even invited to staff meetings’*. These findings demonstrate a lack of principal support that can enable teachers to take an active role beyond the classroom in the development of student abilities.

Lack of support from teachers themselves was also identified as a challenge. The literatures identifies various traits and characteristics recommended for school librarians in collaboration and it is clear that the SLMS has to be bold and initiate contact regularly as did Interviewee B who stated that *‘she gets what she needs from the teachers because she is persistent’*. As recommended by Austin and Bhandol, librarians have to establish their position with their respective school (2013, p. 16).

5.3.4 School culture

95% of respondents (19 out of 20) agreed that the school culture in T&T has a part to play in librarians being viewed as educators. This suggest that the culture of the school has to encourage staff collaboration as advocated by Aronson, because support has to come from administration, given that collaboration best occurs where the school culture provides support (1996, p. 3).

5.4 Technology in Education - Skills and Abilities

The majority of respondents (85%) of the questionnaire stated they had a working knowledge of educational technology but only 70% rated their overall skills as proficient and 5% rated as advanced in the use of 21st century educational technology. SLMS rate their knowledge base as adequate even though training was not forthcoming; given the dynamic nature of technology. While skills and abilities were suitable for collaborative purposes, what is significant is the limited use of technology in any collaboration at all. Those SLMS most enthusiastic about collaborating with technology fell within the 6 – 10 year bracket and above, of experienced librarians. While it is notable that 17 out of 19 questionnaire respondents utilized Microsoft Office and 12 used websites, they were used for presentation purposes only. Respondents from both questionnaire and interviews commented on the out-dated equipment that was in need of upgrade (software and hardware) and this is aligned with the literature (Johnson, 2012, p. 19). Use of technology integrated into the lesson is recommended for collaborative teaching and 21st century learners require much more than Microsoft Office word and PowerPoint presentations. They need to use information skills to evaluate subject content and use for everyday life as well. 13 out of 20 respondents agreed that their schools did not have the necessary technological capabilities to support 21st century learners.

5.5 School librarians as Educators

Coming out of this research is school librarians' sense of commitment to ensuring that students are equipped with the necessary information literacy technology and skills that are needed for the future. When asked whether they attended any teacher training, 40% of respondents, (6 years' experience and over category) said yes they had attended a Certificate in Education (Cert-Ed) course which prepared them for the teaching role within the school library. Thus new school librarians under 5 years' experience have had no exposure to teacher training. Some imbalance is presented in that the younger SLMS are more proactive in technology skills and need that teacher training, while the older SLMS have had some teacher training but lack updated technological skills. The right balance is needed for effective application of collaboration using technology, in order to impact on student achievement. 95% of the 20 questionnaire respondents stated they would be willing to collaborate with teachers using multimedia technology to support instruction, which is aligned with the literature (Johnson, 2012, p. 22).

5.6 Summary

This chapter has discussed the results of this study with reference to the literature review, the results of which suggest there is low level collaboration taking place between school librarians and teachers in secondary schools in T&T. The results were not unexpected, despite the many challenges faced by SLMS in this effort. The extensive body of literature presumes that school librarians are certified in teaching but the challenge of role definition enlightens this notion. SLMS are committed to making a difference in the life of young people by gradually eroding the barrier of the traditional teaching community to include true collaboration. This study will be concluded in the following chapter, where the aims and objectives will be reviewed with suggestions for further research.

CHAPTER 6: CONCLUSION

6.1 Introduction

This chapter will review the study to determine whether the aims and objectives have been met. The preceding chapters will be summarized and the research process evaluated with suggestions for future collaborative practices for school librarians in T&T.

6.2 Aim and Objectives

The aim of the study was to explore the level of collaborative efforts between the school librarian and classroom teachers in the provision of information literacy instruction using educational technology, and to gauge the readiness of school librarians in T&T to undertake this mandate. The research questions for this research were:

1. To what extent are school librarians in T&T performing their collaborative teaching role?
2. How do school librarians' rate their knowledge base of educational technology for 21st century skills and is it sufficient for effective application in their collaborative teaching role to ultimately impact on student achievement?

The objectives to address this research were:

1. To review current international collaboration practices between school librarians and teachers for the provision of information literacy instruction, using educational technology
2. To describe school librarians current experiences in their collaborative efforts.
3. To identify the main challenges and barriers encountered by school librarians that affect collaboration.
4. To examine their skills and technical abilities using 21st century educational technology.

5. To draw conclusions and develop recommendations that can support the collaborative efforts between school librarians and teachers in T&T, and ultimately impact on student achievement.

6.3 Literature Review Summary

The literature review, which achieved objectives one and three, was conducted to review current international collaboration practices between school librarians and teachers, using educational technology, and identify challenges and barriers affecting collaboration. The main themes emerging from the literature centred on the evolving roles of school librarians and their responsibility for information literacy instruction; various forms of collaboration; factors for successful collaboration; challenges and barriers. The use of educational technology in the collaboration process was not discovered, so this was identified as a gap in the research. However, educational technology in information literacy emerged in the literature so this study focussed on the skills and technical abilities required for educators in order to achieve objective number four. The literature showed the various forms that collaboration could take, although these were linked to the ‘teacher-librarians’ according to international standards. Challenges included lack of support, resources, time constraints, role definition and culture of the schools.

6.4 Methodology Summary

A mixed methods approach was adopted in this study in an attempt to meet objectives two to five. Quantitative data was gathered using an online questionnaire which was sent to 40 purposively selected school librarians, (28 government school, and 12 denominational) to ensure a broad overview of responses from both categories in which to make comparisons. This was followed by qualitative telephone interviews conducted with three solicited school

librarians to discuss the findings and actual collaboration experiences. The combination of these two methods allowed for greater insight into the collaboration process with these professional participants.

The response rate for the questionnaires was 50% (20 out of 40 with 1 incomplete), giving some statistical validity to the resulting data, which offers interesting insights into the views of school librarians on collaboration process, but not sufficient enough to make generalizations about the study. The value of the statistical analysis though, is still worthy of consideration, even if it is somewhat limited. Given that only three librarians were interviewed, it leaves room for further investigation into actual experiences with collaboration. It is therefore recommended that the survey be reviewed before any replication to ensure that the questions asked are sufficient to capture the required data. Although this mixed method approach helped the researcher to match responses from both survey and interviews, using these two methods generated a lot of data for analysis.

6.5 Results and Discussion Summary

The results and discussion chapters have provided insight into the actual levels of collaboration between school librarians and teachers, the challenges encountered in these efforts and the skills and technical abilities of SLMS, thus achieving the second, third and fourth objectives. The results of the interviews gave insight into school librarian's current collaborative experiences, recognizing that a low level collaboration is mostly performed. True collaboration is not effected as any planning or sharing of activities or assessment is not conducted. Various techniques are applied according to each individual school circumstance.

The results of the online questionnaire highlighted the number of challenges and barriers faced by school librarians in their efforts to collaborate with teachers, which were all supported by the interview data. The lack of resources, time constraints on the part of teachers, fixed scheduling of classes, lack of knowledge of the role of the school librarian, lack of support from administration are but some of the challenges faced in collaborative efforts. While they are technology enabled in skills and abilities, they are disabled by the lack of technological resources, which are in desperate need of upgrade. Despite this, school librarians still continue to initiate discussions with teachers in their efforts to fulfil the role of instructional partner, providing students with the much needed information literacy instruction for the 21st century.

A comparison of the findings with the literature shows an alignment with researchers, as the fulfilment of true collaboration can only happen when certain factors are in place, and all staff attitudes are in alignment with a similar goal. Without support from administration, teachers will not take an active role beyond the classroom in the development of student abilities. Communication remains the key. There has to be more interaction between SLMS and teachers and education in the role of the school library services must be disseminated.

6.6 Gaps in the Literature

While a lot has been written about school librarianship and the evolving roles in the literature, very little has been written about ‘how’ these are to be accomplished, or any standards set for their successful mandate. It appears that each individual school librarian has to assess their environment and decide on the best fit approach to ensure that necessary roles are performed, in order to get results. Much discussion on the use of technology in education is still not applicable in the classrooms. With budgetary deficits, technology equipment in secondary

schools are in need of upgrading, both software and hardware, and skills and abilities also need to be upgraded as new technologies emerge.

6.7 Reflections on the Research

The main challenge in conducting this research was identifying as a researcher in this work field and not allowing bias to ring through in this study. What became obvious while compiling the results was the opinions of other people are not always the same as the researcher would have expected. The design of the questionnaire was another challenge as the researcher sought to ask the right questions to answer the research questions. Analysis of all this rich data was another challenge given the researcher's short time frame and the scope of the research. The advice for future researchers in this area would be to focus on collecting data using one reliable methodology and to conduct research during the school term and not during a vacation period, especially Christmas vacation.

6.8 Recommendations

The following is recommended after conducting the research:

1. Workshops with Library Supervisors and school administration to educate all stakeholders on the role of school librarians, to ensure their roles as instructional partners are understood.
2. Regular training on new technology methods for SLMS to keep abreast of 21st century technology. These can be done in-house.
3. Teacher training for new school librarians, with concepts for collaboration.
4. A suggestion box to identify areas for staff training.

6.9 Conclusion

The aim of this study was to explore the level of collaborative efforts between the school librarian and classroom teachers in the provision of information literacy instruction using educational technology and to gauge the readiness of school librarians in T&T to undertake this mandate. The literature review and the results have shown that low level collaboration is practiced in the secondary schools and there are numerous barriers to this process. The culture of each school has to be considered and the support of administration is crucial for this process to be successful. While the findings have also shown that SLMS are doing what they can to enable collaboration using technology, dated and limited technology hampers this process. These findings can be considered generalizable to SLMS in T&T given the purposeful sample that was deliberately selected. As such it cannot be transferred to SLMS anywhere else who are not in this group. Workshops and training have been recommended as a means of educating all stakeholders involved in this process with a view to foster support and good collegial relationships.

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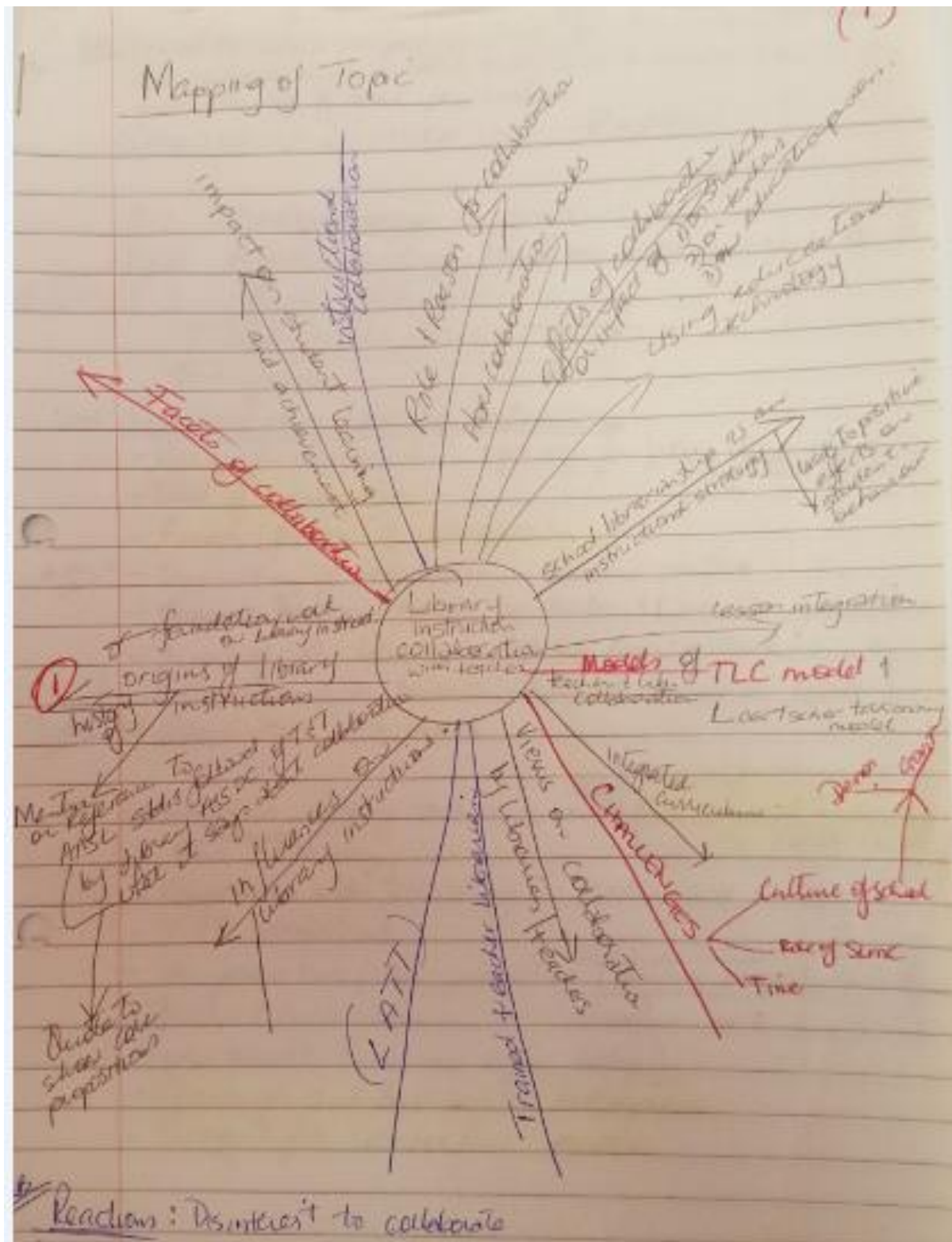
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Appendix A: MIND MAP OF TOPIC



Appendix B: Literature Search Plan

SEARCH TERMS AND PHRASES USED	SOURCES USED
Collaborative library instruction	NALIS EBSCOHost
Issues in librarian and teacher collaboration	-Academic Search Elite online database
Collaborative teaching practices between teachers and librarians	- LISA
	- LISTA
Characteristics of collaboration	
Forms of collaboration	PRIMO
Levels of collaboration	- LISA
Instructional collaboration	- LISTA
Strategies for collaboration	
Building collaborative relationships	
Partnerships in information literacy instruction	ERIC (Education Resource Information Center) database
Collaboration in the Caribbean	Google Scholar
	Yahoo.com
Collaboration using technology	
Technology in library instruction	
Educational technology in collaborative library instruction	
Using technology for library instruction	
All search terms were used interchangeably	

Appendix C - Letter asking for permission to use NALIS network for survey

Cheryl-Ann Fraser-Haynes
17 Heliconia Drive, Hillside Gardens
Buen Intento, Princes Town
Mobile Phone: 1 868 737-1940
E-mail: haynesc@nalis.gov.tt

01st December, 2015

The Director,
Information Services Division
National Library and Information System Authority (NALIS)
Abercromby Street,
PORT OF SPAIN

RE: Permission to conduct Research Study

Dear Sir/Madam,

I am seeking permission to conduct an e-survey among selected school librarians using NALIS's network. This survey is aimed at gathering information about the collaborative function between the school librarian and classroom teachers, as partial fulfilment of the Master's degree with Aberystwyth University.

Participation in the survey is entirely voluntary, and there are no known or anticipated risks to participants in this study. All information provided will be kept in utmost confidentiality and used for dissertation purpose only. The names of respondents will not appear in this study.

Your consent and permission to conduct this study will be greatly appreciated.

If you agree, kindly sign below and email a scanned copy of the signed form to the email address listed above.

Sincerely,

Cheryl-Ann Fraser-Haynes
Student of Aberystwyth University

Approved by:

_____	_____	_____
Print your name and title here	Signature	Date

Appendix D: Invitation email for e- Questionnaire

06th December, 2015

Dear Colleague

I am currently researching the collaborative function between the School Librarian (person in charge of the library) and classroom teachers, as a partial fulfilment of the Master's degree with Aberystwyth University.

As part of this research, I am conducting a survey to investigate the views towards collaboration with the aid of information technology in the secondary schools.

I would appreciate your response to the survey, which will close on the 22nd December, 2015. All replies will be anonymous and will be treated as strictly confidential.

Here is the survey link: [<https://www.esurveycrator.com/s/4681a23>]

Thank you for participating in my survey.

Best regards

Cheryl-Ann Fraser-Haynes

haynesc@nalis.gov.tt

Appendix D (a): Reminder email for e- Questionnaire

Dear Colleague

On the 6th December I sent you a link to a survey I am conducting on the collaborative function between the School Librarian and classroom teachers, as a partial fulfilment of the Master's degree with Aberystwyth University.

If you have already responded, thank you very much for your assistance, and please ignore this reminder. If you haven't responded as yet, I would be truly grateful if you can assist me by completing the survey, which closes on 22nd December, 2015. All replies will be anonymous and will be treated as strictly confidential.

Here is the survey link: [[SURVEYLINK]]

Thank you for participating in my survey.

Sincerely

Cheryl-Ann Fraser-Haynes

haynesc@nalis.gov.tt

Appendix E: Final questionnaire hosted at eSurvey Creator

School Librarian and Teacher Collaboration Survey

Page 1

The purpose of this survey is to examine the level at which collaboration takes effect between the School Librarian and the classroom teacher, with the aid of educational technology, in secondary schools in Trinidad and Tobago.

1. What is your job title? *

- ☐ Library Assistant II ☐ Librarian I ☐ Librarian II
- ☐ Other (please specify)

2. Please state the number of years as a practicing School Librarian (in charge of a school library)

- ☐ 0 - 5 years ☐ 6 - 10 years ☐ 11 - 15 years ☐ over 15 years

3. Please state the category of Secondary School

- ☐ Government Secondary ☐ Denominational Assisted Secondary
- ☐ Other (please specify)

4. As a School Librarian/School Library Media Specialist, do you play a major role in the collaborative effort with the teaching of Information Literacy?

- ☐ yes
- ☐ no

5. How often does collaboration take place?

- ☐ Fixed (for scheduled library classes only) ☐ Flexible (planned according to teacher and librarian needs and for use of resources)
- ☐ Other (please state)

6. Is educational technology used during these collaborative teaching sessions?

- ☐ Yes ☐ No
- ☐ Other (please specify)

7. How ready are you for Collaboration?

Directions: Please read each of the following statements and select the answer that best represents your response.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I have a thorough understanding of the information literacy standards for student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a broad knowledge of my school's curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am aware of the instructional styles of individual teachers in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know the abilities, learning styles and interest of the students in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The library's collection supports the curriculum and meets the academic and recreational needs of students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a working knowledge of educational technology resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You view yourself as a professional colleague with important knowledge and expertise to contribute to students and staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Is there support for collaboration at your school?

Directions: Please read each of the following statements and select the answer that best represents your response.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Administration is supportive and fosters a collaborative school culture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The school principal ensures that teachers collaborate with the Librarian for lesson planning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resources are provided by Administration that allow the Librarian and teachers to meet regularly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As the Librarian, you take the initiative to pursue relationships with teaching staff to promote collection development, teaching and learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time is allocated daily to plan activities, set goals and teaching strategies for collaboration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional development workshops are designed specifically for this role.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Do you currently teach information literacy with the aid of educational technology?

☐ Yes ☐ No

☐ Other (please specify)

10. Have you attended any teacher training courses or workshops that could assist you? *

☐ Yes ☐ No

☐ If yes, please state what course or workshop

11. How would you rate your overall skill in using educational technology?

☐ Below basic ☐ Basic ☐ Proficient ☐ Advanced

12. Please rate the training you have received in the use of educational technology.

☐ No training received ☐ Inadequate ☐ Adequate

☐ Other (please specify)

13. Please identify which of the following technologies (software) you currently use in information literacy classes (Select all that apply)

☐ Websites ☐ Microsoft Word, Excel, PowerPoint ☐ Google Docs ☐ Blogging ☐ Wikis ☐ Video Podcasts ☐ None of these

☐ Other (please specify)

14. Please identify which of the following technologies (hardware) you have access to at your library/school (Select all that apply).

☐ Overhead projector ☐ Interactive whiteboard/Smart board ☐ Digital cameras ☐ Scanners ☐ Personal computers/laptops ☐ Electronic Readers ☐ None of these

☐ Other (please specify)

15. Collaboration with teachers using educational technology.

Directions: Please read each of the following statements and select the answer that best represents your response.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
The school has the necessary technological capabilities to support 21st century learners.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am familiar with the copyright and ethical issues related to the use of information and communication technologies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to collaborate with teachers using multimedia technology to support instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. There is a view that the teaching profession is distinguished as educators because they aspire to influence the life path of young people and guide their future. Do you agree that the role of school librarians in Trinidad and Tobago is along a similar path?

☐ Strongly disagree ☐ Disagree ☐ Neither disagree nor agree ☐ Agree ☐ Strongly agree

17. Do you agree that the school culture in Trinidad and Tobago has a part to play in the view of school librarians as teachers?

☐ Strongly disagree ☐ Disagree ☐ Neither disagree nor agree ☐ Agree ☐ Strongly agree

18. What in your view are the main challenges encountered in your efforts to collaborate with teachers?

19. What are your suggestions to improve the collaborative efforts between school librarians and teachers?

20. What in your view is needed for school Librarians to truly impact on student achievement within secondary schools?

Appendix F: Summary results from eSurvey Creator

(Please note that the free-text responses for questions 18 – 20 have been removed for qualitative analysis and can be found in Appendix VII)

1. What is your job title? *

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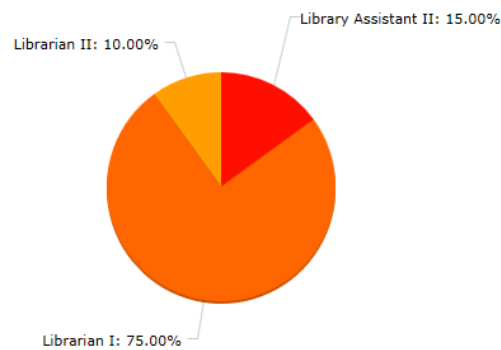
Number of participants: 20

3 (15.0%): Library Assistant II

15 (75.0%): Librarian I

2 (10.0%): Librarian II

- (0.0%): Other



2. Please state the number of years as a practicing School Librarian (in charge of a school library)

[.png](#) [.pdf](#) [.xls](#) [.csv](#)

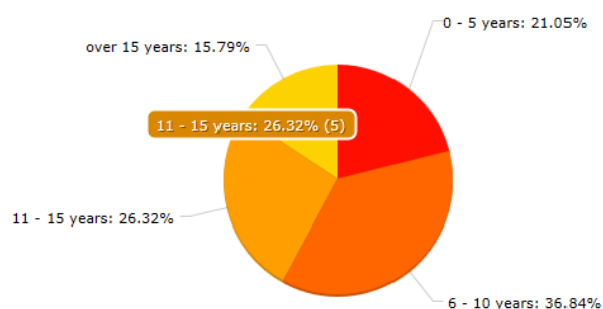
Number of participants: 19

4 (21.1%): 0 - 5 years

7 (36.8%): 6 - 10 years

5 (26.3%): 11 - 15 years

3 (15.8%): over 15 years



3. Please state the category of Secondary School

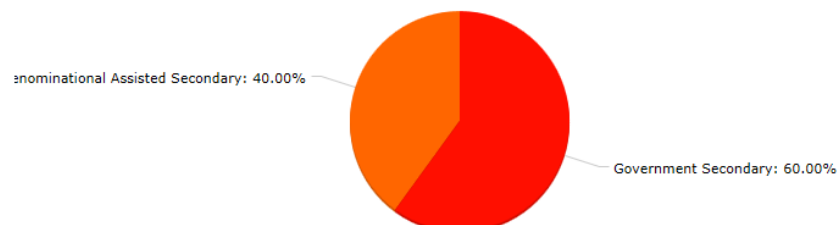
[.png](#) [.pdf](#) [.xls](#) [.csv](#)

Number of participants: 20

12 (60.0%): Government Secondary

8 (40.0%): Denominational Assisted Secondary

- (0.0%): Other



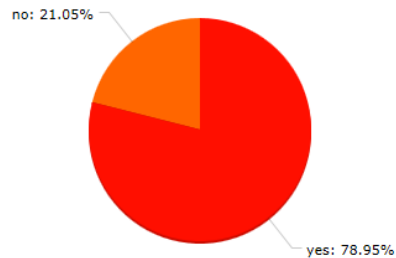
4. As a School Librarian/School Library Media Specialist, do you play a major role in the collaborative effort with the teaching of Information Literacy?

[.png](#) [.pdf](#) [.xls](#) [.csv](#)

Number of participants: 19

15 (78.9%): yes

4 (21.1%): no



5. How often does collaboration take place?

[.png](#) [.pdf](#) [.xls](#) [.csv](#)

Number of participants: 19

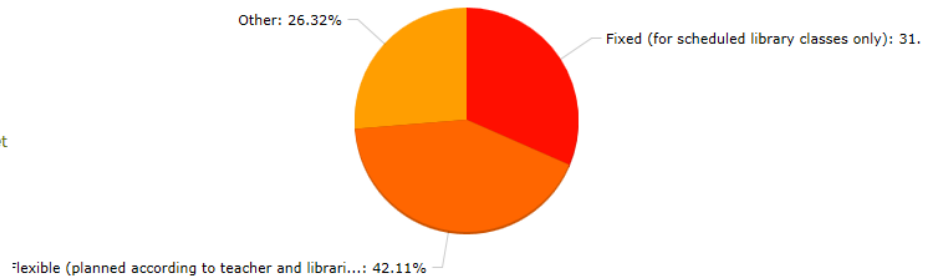
6 (31.6%): Fixed (for scheduled library classes only)

8 (42.1%): Flexible (planned according to teacher and librarian needs and for use of resources)

5 (26.3%): Other

Answer(s) from the additional field:

- once or twice per term
- I use both methods in order to meet library needs
- Occasional Collaboration only
- combination of both
- Only when I request it for Library Skills project



6. Is educational technology used during these collaborative teaching sessions?

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Number of participants: 19

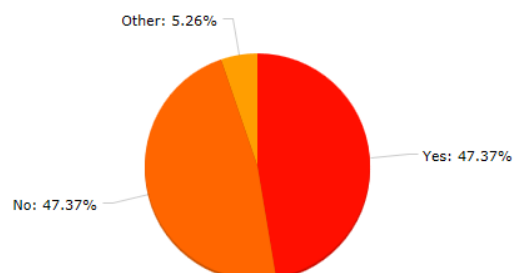
9 (47.4%): Yes

9 (47.4%): No

1 (5.3%): Other

Answer(s) from the additional field:

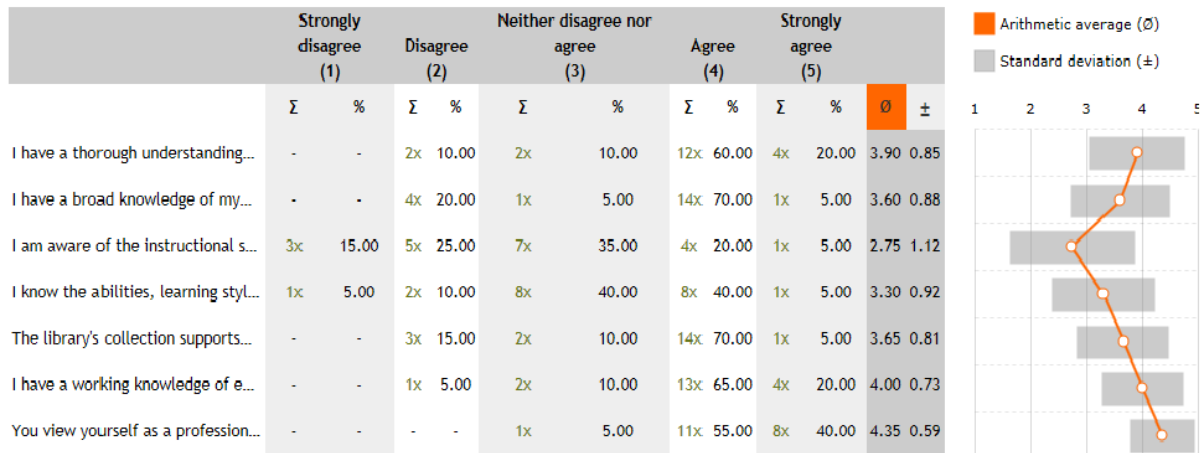
- sometimes



7. How ready are you for Collaboration?

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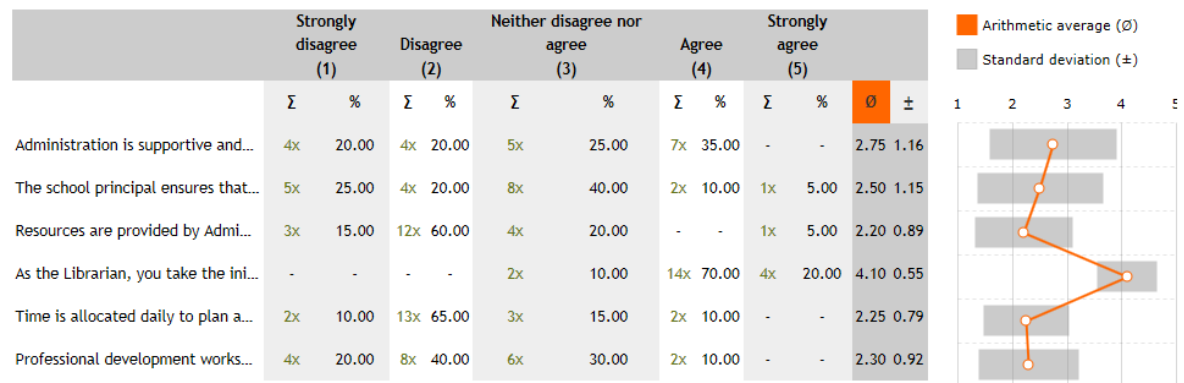
Number of participants: 20



8. Is there support for collaboration at your school?

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Number of participants: 20



9. Do you currently teach information literacy with the aid of educational technology?

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Number of participants: 20

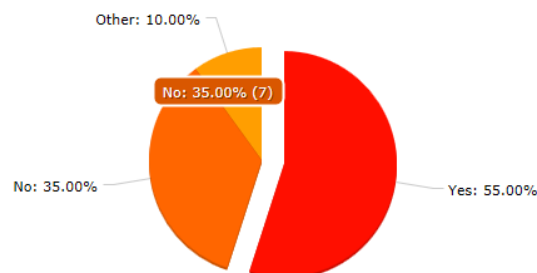
11 (55.0%): Yes

7 (35.0%): No

2 (10.0%): Other

Answer(s) from the additional field:

- Sometimes
- No equipment is available



10. Have you attended any teacher training courses or workshops that could assist you? *

[.png](#) [.pdf](#) [.xls](#) [.csv](#)

Number of participants: 20

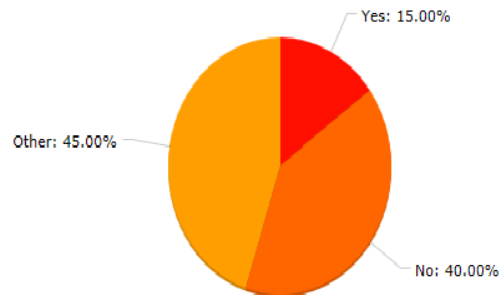
3 (15.0%): Yes

8 (40.0%): No

9 (45.0%): Other

Answer(s) from the additional field:

- Certificate in education for school librarians
- Certificate in Education for School Librarians
- Certificate in Ed. For School Librarians
- Certificate in education for school librarians
- Certificate in Education
- classroom management
- cert of education for school librarian
- Certificate in Education for School Librarians
- Certificated in Education for School



11. How would you rate your overall skill in using educational technology?

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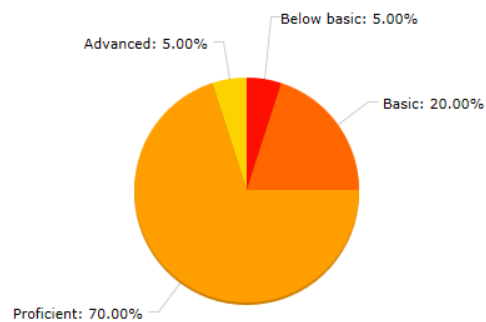
Number of participants: 20

1 (5.0%): Below basic

4 (20.0%): Basic

14 (70.0%): Proficient

1 (5.0%): Advanced



12. Please rate the training you have received in the use of educational technology.

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Number of participants: 20

2 (10.0%): No training received

3 (15.0%): Inadequate

15 (75.0%): Adequate

- (0.0%): Other



13. Please identify which of the following technologies (software) you currently use in information literacy classes (Select all that apply)

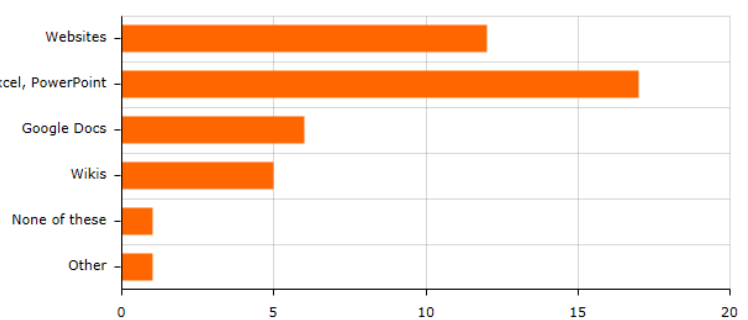
[.png](#) [.pdf](#) [.xls](#) [.csv](#)

Number of participants: 19

12 (63.2%): Websites
17 (89.5%): Microsoft Word, Excel, PowerPoint
6 (31.6%): Google Docs
- (0.0%): Blogging
5 (26.3%): Wikis
- (0.0%): Video Podcasts
1 (5.3%): None of these
1 (5.3%): Other

Answer(s) from the additional field:

- You tube

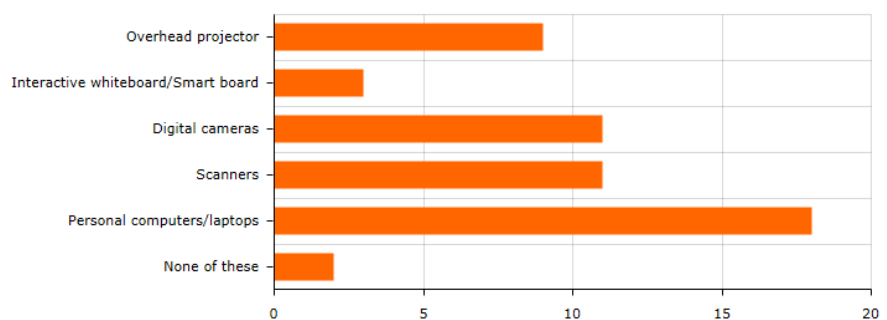


14. Please identify which of the following technologies (hardware) you have access to at your library/school (Select all that apply).

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Number of participants: 20

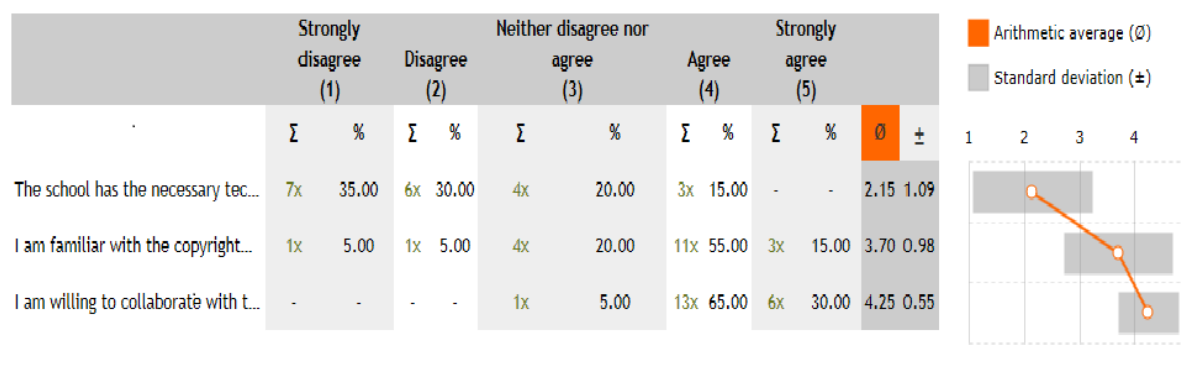
9 (45.0%): Overhead projector
3 (15.0%): Interactive whiteboard/Smart board
11 (55.0%): Digital cameras
11 (55.0%): Scanners
18 (90.0%): Personal computers/laptops
- (0.0%): Electronic Readers
2 (10.0%): None of these
- (0.0%): Other



15. Collaboration with teachers using educational technology.

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Number of participants: 20

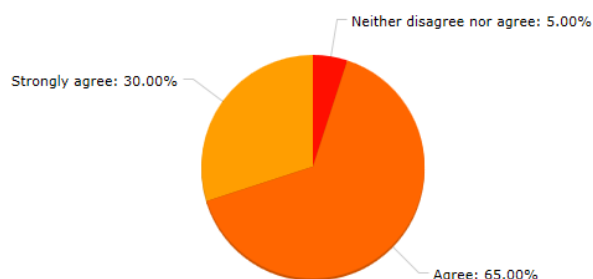


16. There is a view that the teaching profession is distinguished as educators because they aspire to influence the life path of young people and guide their future. Do you agree that the role of school librarians in Trinidad and Tobago is along a similar path?

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Number of participants: 20

- (0.0%): Strongly disagree
 - (0.0%): Disagree
 1 (5.0%): Neither disagree nor agree
 13 (65.0%): Agree
 6 (30.0%): Strongly agree

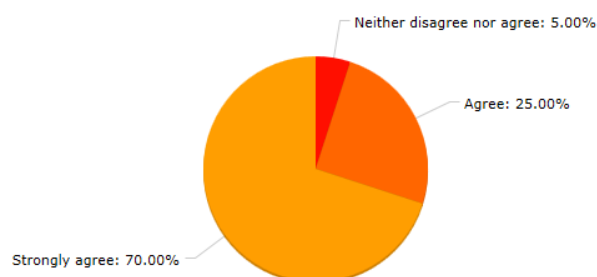


17. Do you agree that the school culture in Trinidad and Tobago has a part to play in the view of school librarians as teachers?

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Number of participants: 20

- (0.0%): Strongly disagree
 - (0.0%): Disagree
 1 (5.0%): Neither disagree nor agree
 5 (25.0%): Agree
 14 (70.0%): Strongly agree



18. What in your view are the main challenges encountered in your efforts to collaborate with teachers?

[.xls](#) [.csv](#)

Number of participants: 20

19. What are your suggestions to improve the collaborative efforts between school librarians and teachers?

[.xls](#) [.csv](#)

Number of participants: 20

20. What in your view is needed for school Librarians to truly impact on student achievement within secondary schools?

[.xls](#) [.csv](#)

Number of participants: 19

Appendix G: Qualitative results from eSurvey Creator (questions 18 – 20)

18. What in your view are the main challenges encountered in your efforts to collaborate with teachers?

.xls

.csv

Number of participants: 20

- Teachers believe that librarians are just responsible for books in the library, they don't see us as equals
- Some teachers do not see collaboration as important and so do not make time for this to take place.
- Non- corporation by teaching staff. Time is always the factor for non-collaboration.
- 1. Teachers are not willing to give the time needed to plan collaborative lessons.
- 2. Teachers sometime display negative attitudes or disinterest in meeting with school librarian to plan lessons , so more often lessons are done in isolation and are not fully integrated into subject content.
- 3. Lack of support from administration. (Lip service when issues concerning LILC classes are brought up).
- 1) Principal's reluctance to buy in.
- 2) Teaching staff unwillingness to be introduced to the information and communication technology.
- 3) Busy schedule of both teachers and librarian.
- Getting teachers to spend the time to work together and plan lessons.
- Teachers are not willing to devote their time to this, not viewed as important enough given the amount of work they already have to perform
- I have very recently been appointed to the post of L1. I am still meeting teachers. We have no internet in the Library.
- Lack of interaction with most teachers. Time to do so is also a challenge.
- Disinterest due to students' low literacy level.
- Teachers' unwillingness to explore other teaching methods due to students' behaviour
- Nothing in place to facilitate different learning style as opposed to chalk and talk
- being able to meet with subject teachers/departmental bodies to get a comprehensive view of what their action plan for the students are on a termly basis.
- not enough resources in the library to meet the teacher needs
- Sometimes scheduling
- timetabling of classes
- teachers class timetable
- teachers lack of knowledge on the role of the slmc and staff
- They are not interested
- The mindset that Librarian do not possess the skills and teadchers can do this on thier own. Also this is not the place of the Librarian teaching is the teachers job.
- Teachers perception of Library staff is; they are here to keep the students quiet while under our supervision and they are here to pack books. They are not aware of the educational qualifications of School Librarian and as such think they are incapable of being teachers.
- L
- Time constraints.
- Teachers not really understanding how important library services are in student development.
- The challenges encountered with teacher collaboration are firstly poor administrative scheduling of the schools timetable (education curriculum management) in relation to scheduling classes to be taught proper research skills or to use the relevant resources,thereby causing time constraints such as limiting of assigned periods to conduct live demonstrations of relevant resources etc. which may take longer than thirty-five /forty-five minutes allocated for one period.

Secondly some members of the teaching staff are unwilling to participate in these exercises, due to the fact that it takes away from their allocated teaching time, particularly when they have a substantial syllabus to cover during CSEC Level and A' Level examination periods.

Thirdly technology and equipment failure is another major problem, some of the present equipment and resources at school media centers have become outdated, ineffective and nonfunctional. Internet constraints persistently hamper the delivery of key information in an efficient productive, and importantly a timely manner. Thereby directly affecting the time to relay information to participants thus making teachers weary and unwilling to participate in the collaborative efforts.

- Teachers are very busy trying to cover curriculum and any spare time they may have they use it to do extra work with students. As a result, no time is really available for collaboration as teachers are always busy.

- 1. Unwilling to listen
- 2. Know it all attitude
- 3. Teachers are not aware of the librarian's role in a school, mainly because they have lacked this experience.
- 4. Time
- 5. Family commitments
- 6. Culture of school

19. What are your suggestions to improve the collaborative efforts between school librarians and teachers?

.xls

.CSV

Number of participants: 20

- It has to start with the school principal and NALIS administrators with workshops and highlighting of the librarians role
- Provision of resources and training in this venture, then both parties can make an active effort to get this done.
- The Ministry of Education needs to make it mandatory or make it a formal part of the school curriculum.
- The Ministry of Education and NALIS should have collaborative workshops with both teachers and school librarians to provide training as to how these sessions can be integrated into the curriculum.

Marking scheme for each subject should include a criteria for library content in subject areas.

Time should be outlined for collaborative meeting between teachers and the school librarian termly to work out scheme of work and lesson plans.

- 1) Schedule information and communication technology sessions for the teaching staff facilitated by the librarian (probably twice a month).

2) Integrate certain subjects with information communication technology, so teachers and librarians can collaborate both in preparation and correction of exams.

3) Schedule teachers to assist the librarian in the Library during the librarian's teaching sessions.

- Promotion of the benefits of collaboration. Have workshops for both librarians and teachers together to encourage collaboration and discover the benefits of working together. School administration should encourage collaboration between teachers and librarian.

- It starts with the Principal/Administration encouraging it as an important aspect of the curriculum for students to go forward

- L1 be part of HOD meetings and staff meetings

- Time should be adequately allocated for such collaboration.

- Firstly, teachers' renewed interest in the vocation of teaching since most are in it for the paycheck and has no interest in making a difference in the lives of poor people's children who do

not see school as a given.

- have a collection of teaching resources for the classroom e.g. lessons plans, e-texts, interactive lessons to assist the teacher
- More interactions during staff meetings
- set aside time on the timetable for meeting

teacher need to visit the slmc more often

conduct workshop with teachers

- principals need to get on board
- It should be mandated by the Ministry of Education and supported by the schools administration.
- Librarians should be encouraged to participate in formulation of policies as Head of Department since they are HODs of their department. They must have an input in the direction they want the school to go. School teachers should inform librarians of the projects they intend to undertake for a particular month or term so that the librarian can prepare the resources to meet those particular information needs.
- Meetings and workshops for teachers and librarians so that the role of the library in the education process is better understood and valued.
- Suggestion to improve collaborative include, firstly improving relations with administration, head of department and teachers, to ensure that the school timetable and curriculum planning will include assigned periods for these exercises doing this ensures participation in collaborative exercises.

Secondly professional tuition and standardization of resources and materials in relation to collaborative exercises should be provide for all library media specialist staff to ensure that staff is effective and efficient in performing these duties.

Thirdly is extremely important that School Library media centers possess current technology, equipment and resources as well as a functional internet service to alleviate time constraints and other frustrations.

- Librarian and teachers should be given the opportunity to meet at least once per week so that they could collaborate for the benefit of the students.

Librarians should assist teachers when they are doing lesson planning to infuse technology into their lessons

- Communicate with teachers.

By your actions show them that you are committed to supporting the curriculum

Make time to collaborate

Social interactions

20. What in your view is needed for school Librarians to truly impact on student achievement within secondary schools?

.xls

.CSV

Number of participants: 19

- Proper equipment - upgrading of technological equipment
- More new books in the library to adequately deal with the curriculum
- Better training in teaching and child psychology.
- Resources, support by the school's administration and the teaching staff and more training. Training must not only be refreshers but of new techniques.
- Respect and understanding of the important role that school librarians can play in student and school academic achievement.

Recognition and support from the Ministry of Education, NALIS and school administration for the role and impact of school librarians.

True collaboration between teachers and school librarians so library classes are relevant to student learning and integrated with subject content.

Main

- 1) Furnish the librarian with the necessary tools to be effective:

(i) Well stocked comfortable library

(ii) Computer lab with internet

(iii) Photo copier with scanner including adequate paper

(iv) Introduction of a Library Day which would highlight Information communication Technology and other activities within the Library encouraging students to pursue Librarian as a career.

- Change in school's culture with respect to how they view their school libraries and the impact the school library can have on its curriculum. Most of the time the library is seen detention centers and student group work rooms rather than resource centers.

- Continuous training and upgrading of new methods in technology, not just once in a while

- well equipped library - Internet, computers, projector)

formal Training

Formation of networks among library staff

Collaborations with teachers

- I believe a stronger presence of the librarian in schools. As this would allow for building of relationships between student and librarian. With such relationships, librarians would be quickly viewed as that aide and support to succeed.

- Availability of resources required to do the job in a fairly comfortable environment

- Library collections need to be diverse in terms of subject matter in order to cater for the needs of all learners and to attract existing and new users.

- In the case of books, this would mean fiction and nonfiction of differing levels, to cater for very able learners as well as those who struggle to read; - books in formats attractive to learners, especially non-readers, such as graphic novels, comic books and e-books.

- Non-book materials in the collection would include magazines, computers, audio-visual items such as audio books, DVDs, music, online resources-

- Some more technological resources, more staffing and changes in scheduling

- training

improved slmc

- If we are required to teach let us be viewed as teacher/librarian with the same benefits allowed to teachers

- Support from the powers that be, the teachers and the Librarian need to plan properly and keep the lines of communication open. The good of the children must be put first and they must join forces and develop a good working relationship. Each party must respect the contribution that each bring to the table and acknowledge the worth of it.

- Students should be made aware of the importance of Information Literacy since they inform some us this is not a subject that they must choose after Form 3.

- In order for school librarians to truly impact on student achievement they should always strive to ensure that they are on the cutting edge of technology, aids and other resources to assist student development. It is extremely important for staff to be properly educated and trained (theory and practice) to use resources and equipment to provide adequate customer service to all. They should be reliable and willing to cater to the educational needs of patrons. In addition librarians ought to create a visually stimulating library center that promotes user friendly services, promote learning to enhance student and staff goal orientation and in general promote the services offered at the SLMC to guarantee that they have provided a comprehensive service to clients that will ensure they achieve academic success and return often to use the services offered at the SLMC.

- Librarians must be able to spend more time with students. Each class should be given a library session on their time table where the librarian could assist them with finding material or understanding material using different forms of technology to enhance learning.

- Teamwork by all stake holders---Principal, VP. teachers, Parents, Non teaching staff etc.

Adequate resources

APPENDIX H: Sample consent Form sent to Interviewees

Consent for Participation in Interview Research

Title of research: The School Librarian as Educator: An investigation of the collaborative teaching practices with educational technologies for the 21st century in Secondary Schools in Trinidad and Tobago

Name of researcher: Cheryl-Ann Fraser-Haynes

Project Authority: This research is undertaken as a partial fulfilment of the Master's degree with Aberystwyth University.

1. I volunteer to participate in this research that is designed to gather information about the collaboration process between the school librarian and teacher.
2. I may withdraw from the research at any time without giving a reason.
3. I understand that the researcher will not identify me by name in any report, and that my confidentiality will remain secure.
4. I consent to the interview being taped.
5. I have read and understood the explanation provided to me and agree to participate.

Name of participant: _____

Signature: _____

Name of researcher: _____

Signature: _____

Date: _____

Contact information: Cheryl-Ann Fraser-Haynes

1-868-737-1940

cafraynes@yahoo.com

APPENDIX I: Interview schedule

Note: The questions from this schedule were sent in advance to the interview participants to assist in their preparation for the telephone interviews. Some questions were rephrased during the actual interviews.

Introduction

Good morning and thanks again for agreeing to be interviewed. As you are aware, this interview is intended to explore views on the current collaborative practices taking place in secondary schools between the librarian and teachers with the aid of educational technology. All information collected will remain confidential and you will not be individually identified. Your signed consent form has been received, and you have agreed to this interview being recorded and transcribed.

General

1. How many years have you been a practicing School Librarian?
2. What type of secondary school are you in (government or denominational)?
3. Do you see collaboration with teachers as a necessary part of your role?

Information Literacy and levels of Collaboration

4. In teaching Information Literacy to students as part of your librarian duties, is collaboration with teachers a major activity?

If YES

- a) How often does it happen?
- b) For which classes?

If NO

- c) Why not?

5. Can you tell me about your actual experiences with collaboration at your school?

(For scheduled library classes only or according to teacher and librarian needs/use of library resources, or some other alternative)

6. Describe the nature of these collaborative sessions - what form(s) does it take? Please explain (the how?).
7. Is technology used in these sessions?

Factors for Collaboration

Readiness for

8. Given the extent of this collaborative role, have you had any formal training or workshop conducted to prepare you for this role?
9. Are you aware of the various approaches to teaching and learning for the 21st century learner?

If YES

- a) How did you become aware?
- b) Has this knowledge assisted you in the collaborative teaching role?

If NO

- c) Are you interested in getting this information?
10. What are some of the main challenges you face in performing this role? (Please explain).

Support for Collaboration

11. Is there a collaborative culture at your school?

If YES

- a) Is it supported by Administration? (Time and budget allocated for planning)
- b) Are resources provided when needed?

If NO

- c) What do you do to get individual teachers support?
12. Are professional development workshops designed specifically for this role?
13. Is your SLMC well equipped with the necessary resources and equipment that meet the school curriculum?
14. Overall, would you say that your school has the technological capabilities to support 21st century learners?

Educational Technology in Instruction

15. Do you have a working knowledge of educational technologies?

If YES

- a) Can you list some of these technologies, those used in your information literacy classes?

- b) Do you think these are sufficient for the 21st century learners, and to apply in your collaborative teaching role?

If NO

- c) Why not?

- 16. Given that you are using these technologies, are you also familiar with the ethical issues related to the use of these technologies?
- 17. Have you received any training in new technologies within the last 2 years?

Ending questions

- 18. What in your view is needed to improve the collaborative process
- 19. Given your role as instructional partner, what do you think is needed to truly impact on student's achievement within the secondary schools?
- 20. Are you willing to collaborate with teachers using educational technology, in spite of any challenges that may lie ahead?

Thank participant and close.

APPENDIX J: Sample of part of an initial coded interview transcript

Coded Transcript of the Semi-structured telephone Interview conducted with Interviewee A on 21/12/15

Interview Transcript	Initial Coding framework
<p>General</p> <p>Interviewer: How many years have you been a practicing School Librarian?</p> <p>Interviewee A: <u>Roughly 9 years.</u> February next year will make it exactly 9 years. But I have been with NALIS 19 years now.</p> <p>Interviewer: What type of secondary school are you in (government or denominational)?</p> <p>Interviewee A: <u>government secondary</u></p> <p>Interviewer: Do you see collaboration with teachers as a necessary part of your role?</p> <p>Interviewee A: Well <u>yes...</u> because it listed on our position description so <u>it is something we are expected to do</u></p>	<p>Experience</p> <p>School category</p> <p>Expectancy of Collaboration</p>
<p>Information Literacy and levels of Collaboration</p> <p>Interviewer: In teaching Information Literacy to students as part of your librarian duties, is collaboration with teachers a major activity?</p> <p>Interviewee A: <u>Err..., I would say yes, because it's supposed to be,</u> but it does not really happen as often as I think it should.</p> <p>Interviewer: How often does it happen?</p>	<p>Collaboration as important</p>

Interviewee A:	Well it (library classes) <u>is only assigned to forms 1 and 2 students by the school administration, so the collaboration would mostly be for these scheduled classes. Other than that, teacher-librarian collaboration is very rare.</u>	<p>Scheduling issues</p> <p>Collaboration frequency</p> <p>Collaboration is rare</p>
Interviewer:	So it happens for no other classes?	
Interviewee A:	<u>It mostly happens to the assigned Form 1 and 2 library classes, however, around school-based assessment (SBA) season, it may happen for the forms 4 and 5 when they require their students to use particular information literacy skills. For instance, using various information sources, summarizing it, presenting it and evaluating their final presentation, and then providing a bibliography.</u>	<p>Collaboration frequency</p> <p>Flexible schedule</p> <p>Use of resources</p> <p>Information literacy skills</p>
Interviewer:	Can you tell me about your actual experiences with collaboration at your school?	
Interviewee A:	Well as I said it <u>doesn't happen regular, even for scheduled library classes. In order to teach the Big 6 skills to students you have to use some class project or research that they have to do in order for them to understand it. I tend to approach those teachers who are friendly; you know there are some you could talk to easily</u>	<p>Collaboration frequency</p> <p>Information literacy integration</p> <p>Approach friendly teachers</p> <p>Communication issues</p>
Interviewer:	Uh hum...	
Interviewee A:	And I would ask them about any	

	<p>upcoming research projects they have for the form 1's and 2's classes. They usually <u>cooperate with</u> this request for the details of what they require the students to do. These projects I use with the students to explain the <u>Big 6 skills</u> step by step approach because when they realize that I am actually explaining their project to them they show more interest and actually understand more. Teaching Big 6 has to be <u>linked within a subject content it cannot be taught on its own or by itself.</u> Other than this, most teachers would come and request or query what resources the library has for a particular lesson and make arrangements for the use of those resources for their classes for a particular day.</p>	<p>Cooperative</p> <p>Information Literacy integration</p> <p>Information literacy integration</p>
Interviewer:	So the nature of these collaborative sessions... are they with or without joint planning or assessment of student work.	
Interviewee A:	<p>No there is <u>no joint planning or assessment.</u> The teachers do their work <u>by themselves, no assistance from us.</u> The teachers cooperate with the <u>library/librarian and they would share information on projects</u> when asked by us for information. I think they (the teachers) see us as <u>the traditional library</u>, there to provide books and resources for their needs and definitely not as any teaching partner or anything of that sort.</p>	<p>Lack of Joint planning and assessment</p> <p>Individual work done</p> <p>Cooperation</p> <p>Sharing of information</p> <p>Traditional library status</p> <p>Unequal status</p>

Interviewer:	What about shared goals for student learning?	
Interviewee A:	Shared what? (Laughs).....Teachers in my school <u>don't consider us librarians as equals to them.</u> They see us as <u>custodians of the library.</u> They above everybody else. <u>They not aware of the librarian's role</u> and I don't think they even aware of our qualifications at this post since we are considered only as the non-teaching staff. So teachers aren't going to use any of their already <u>limited time</u> to plan any of their lessons with us, their main focus is on completing the syllabus so students can write exams when due.	<p>Unequal status</p> <p>Traditional library status</p> <p>Lack of knowledge of librarians role</p> <p>Time constraints</p>
Interviewer:	Is educational technology used in these sessions?	
Interviewee A:	Well just <u>the basic.</u> Sometimes we use the projector to show <u>PowerPoint presentations or demonstrate the databases through the Internet.</u> However, <u>the projector is not always available</u> because you have to book it in advance to use it. The teachers and everybody using the same projectors for their classes, so you lucky when you can get them to use. <u>The internet too is not always available in the library.</u>	<p>Technology usage</p> <p>Technology usage</p> <p>Availability of technology</p> <p>Availability of technology</p> <p>Availability of technology</p>

Factors for Collaboration		
Interviewer:	Given the extent of this collaborative role, have you had any formal training or workshop conducted to prepare you for this role?	
Interviewee A:	Yes. in 2010 I attended a <u>1 year course for school librarians - ‘Certificate in Education for School Librarians’</u> . This was held at the University of the West Indies a partnership between NALIS and the University. <u>This sought to prepare us for this this role but it was very brief.</u>	<p>Collaboration preparedness</p> <p>Limited training</p>
Interviewer:	Are you aware of the various approaches to teaching and learning for the 21 st century learner?	Awareness of learning styles
Interviewee A:	I am <u>aware yes.</u>	
Interviewer:	How did you become aware?	
Interviewee A:	Through that same <u>Certificate in Education for school Librarians course.</u>	Collaboration preparedness
Interviewer:	Has this knowledge assisted you in the collaborative teaching role?	
Interviewee A:	Yes it has actually. I have been able to do lesson plans <u>with the different types of learners in mind.</u> Before this I never knew how to actually do lesson plans, far less for the different types of learners. Now I can structure a lesson that can reach the various types of students/learners. It has also helped me in the use of educational technology and	<p>Awareness of learning styles</p> <p>Awareness of learning styles</p> <p>Technology usage</p>

	<p>how to incorporate this in my lessons.</p> <p>We were introduced to wikis and podcast, things I had only heard about but never used, and also teaching students with disabilities, an area that needs some attention in T&T.</p>	Educational technology
Interviewer:	What would you say are some of the challenges you face in performing this role?	
Interviewee A:	<p>The biggest challenge is actually getting teachers to give of <u>their busy time</u> to plan collaboratively for student learning. <u>No special time is allocated for this activity</u> and teachers use their free periods to complete their paper work or assist students otherwise. <u>They do not see collaboration as important and so are unwilling to make time for this activity.</u></p> <p>In addition to this, teachers display a <u>negative attitude</u> as <u>they do not really understand how important library services are</u> in student development. <u>Limited resources, lack of updated technology and internet connection</u> as well all challenge this activity.</p>	<p>Time constraints</p> <p>Time allocation</p> <p>Collaboration as important</p> <p>Unwillingness</p> <p>Negative attitude</p> <p>Lack of knowledge of the SLMC</p> <p>Limited resources</p> <p>Old technology</p> <p>Lack of technology</p>
Interviewer:	Is there a collaborative culture at your school?	
Interviewee A:	<p>No not really, even though you will get the few teachers <u>to cooperate</u> with you from time to time. <u>There are no protocols in place for collaboration.</u></p>	<p>Cooperation from teachers</p> <p>Support for collaboration</p>

Interviewer:	Is there support from Administration?	
Interviewee A:	At first there was some positive talk. But that's all it was, nothing came from it. <u>No time is allotted for it in the school timetable and teachers often say they don't have time for it.... spare time.</u> We have to make all the effort to get something going when we are pushing for collaboration. I believe <u>they don't see the need for it until it suits their purpose</u> especially when they are doing SBA's.	Time constraint Time constraint Lack of knowledge of the SLMC
Interviewer:	Are resources provided when needed?	
Interviewee A:	<u>Money is always a problem when the library needs something.</u> It's a whole long process to go through even though the resources required are for the functioning of the library and for the students and staff benefits. We are supposed to get 5% of school allocation but this does not materialize. Hence there are <u>not enough resources</u> in the library to meet the needs of teachers, especially when it is needed.	Financial problems Financial allocation Limited resources
Interviewer:	Are professional development workshops designed specifically for this role?	
Interviewee A:	<u>No. And I think this is an area where ELSD (Educational Library Services Division) has fallen short.</u> Because this is an actual part of our job specification, I think they should provide regular	Lack of workshops

	workshops to cover these areas for staff. The only thing that actually covered this was the <u>Certificate in Education for School Librarians</u> and that was since 5 years ago. <u>No other workshop</u> on this area has happened since, but we are <u>expected to perform in this area</u> nevertheless. Yeah.	Collaboration preparedness Lack of workshops Expectancy of collaboration
Interviewer:	Is your SLMC well equipped with the necessary resources and equipment that meets the school curriculum?	
Interviewee A:	No it isn't, far from it. Since the SEMP (Secondary Education Modernization program) in 2008, <u>there has not been a significant investment in our school library in terms of equipment or resources.</u> We are still using the same old computers and printers which are in <u>need of upgrading.</u> Sometimes we are <u>without internet connection for long periods</u> when the server is down. And when the server is down it means everything is down because all the computers and printers are networked. There is <u>no formal commitment towards resources</u> even though allocations are made through the library's budget.	Financial problems Lack of resources and equipment Old technology Lack of technology Financial problems Lack of commitment
Interviewer:	Overall, would you say that your school has the technological capabilities to support 21 st century learners?	
Interviewee A:	Right now I would say no. Most of <u>the</u>	

<p><u>existing equipment in school need upgrading.</u> Teachers need to use the technology with the lessons so that the students are aware of the various technologies, especially the new technologies. But right now the school <u>has to upgrade not just the hardware but the software too.</u></p>	<p>Old technology</p> <p>Old technology</p>
<p>Educational Technology in Instruction</p> <p>Interviewer: Do you have a working knowledge of educational technologies?</p> <p>Interviewee A: Yes</p> <p>Interviewer: Can you list some of these technologies, those used in your information literacy classes?</p> <p>Interviewee A: Well I can use the Microsoft Office applications like Word, Power Point and Excel. In the library we use the projector to set up mostly the PowerPoint presentations, and use the Internet to demonstrate the NALIS databases. The certificate course showed us how to use wikis and podcast and create your own website, but that was so long ago</p> <p>Interviewer: Do you think these are sufficient for the 21st century learners, and to apply in your collaborative teaching role?</p> <p>Interviewee A: It would be, if we had the necessary technology to use them.</p>	
	<p>Technology used</p> <p>Lack of technology</p>

Interviewer:	Given that you are using some of these technologies, are you also familiar with the ethical issues related to the use of these technologies?	
Interviewee A:	Oh yes, I tend to inform the students using the library, to avoid them plagiarizing from websites	
Interviewer:	Have you received any training in new technologies within the last 2 years?	
Interviewee A:	No I haven't, not formally anyway. You know we always learn new things kind of by the wayside, you know, from the children and the internet.	
Ending questions		
Interviewer:	What in your view is needed to improve the collaborative process?	
Interviewee A:	I think that NALIS has to start by <u>conducting training workshops together with the Ministry of Education in order to incorporate both administrative and teaching staff</u> , not just librarians. Some level of <u>education is needed</u> for our teachers to promote collaborative methods in teaching in our schools otherwise we will just keep doing the same old things in spite of new technologies and skills that is needed for the 21 st century. The same way they upgrade the subject curriculum every what ...err 3-4 years, they need to <u>integrate them with segments of IT</u> that	

	<p>relates to the library curriculum. In that way the teachers would have no choice but to do some areas of the syllabus in <u>collaboration with the librarian</u>. Some sort of <u>compulsory mandate</u> should be given by the ministry which has to be <u>supported by the principal, and time-tabled into class schedules</u>. And staff meetings need to include the library staff too. When they have <u>staff meetings</u> is only for the teachers, we are not invited – that should tell you that they don't even consider us. That thinking have to change first.</p>	
Interviewer:	<p>In your role as instructional partner, what do you think is needed to truly impact on student's achievement within the secondary schools?</p>	
Interviewee A:	<p>Librarians need to <u>be trained in teaching skills and a bit of child psychology</u> too because you dealing with children from all types. That course '<u>certificate in education for school librarians</u>' should be <u>made compulsory for all librarians</u> to complete. <u>Workshops</u> to upgrade this should also be conducted at least every 2 years because technology is constantly changing and new technologies emerging. <u>Students and staff also need to be sensitized about the role of the librarian and the importance of the library</u>. <u>We need to be supported in this role</u> to have</p>	

	any impact on student achievement	
Interviewer:	Are you willing to collaborate with teachers using educational technology, in spite of any challenges that may lie ahead?	
Interviewee A:	<u>Yes I am willing</u> and will continue to communicate with teachers for the benefit of the students.	
End of Interview		

APPENDIX K: Sample of an initial coded qualitative question from the questionnaire (Question 18).

18. What in your view are the main challenges encountered in your efforts to collaborate with teachers?	Initial Coding framework
<p>Number of participants: 20</p> <ul style="list-style-type: none"> - Teachers believe that librarians are just responsible for books in the library, they don't see us as equals - Some teachers do not see collaboration as important and so do not make time for this to take place. - Non- corporation by teaching staff. Time is always the factor for non-collaboration. - 1. Teachers are not willing to give the time needed to plan collaborative lessons. <p>2. Teachers sometime display negative attitudes or disinterest in meeting with school librarian to plan lessons , so more often lessons are done in isolation and are not fully integrated into subject content.</p> <p>3. Lack of support from administration. (Lip service when issues concerning LILC classes are brought up).</p> <ul style="list-style-type: none"> - 1) Principal's reluctance to buy in. <p>2) Teaching staff unwillingness to be introduced to the information and communication technology.</p> <p>3) Busy schedule of both teachers and librarian.</p> <ul style="list-style-type: none"> - Getting teachers to spend the time to work together and plan lessons. - - Teachers are not willing to devote their time to this, not viewed as important enough given the amount of work they already have to perform - I have very recently been appointed to the post of L1. I am still meeting teachers. <p>We have no internet in the Library.</p> <ul style="list-style-type: none"> - Lack of interaction with most teachers. Time to do so is also a challenge. - Disinterest due to students' low literacy level. <p>Teachers' unwillingness to explore other teaching methods due to students' behaviour</p> <p>Nothing in place to facilitate different learning style as opposed to chalk and talk</p>	<p>Lack of knowledge of role of SLMC/ Unequal status</p> <p>Collaboration unimportant</p> <p>Time constraint</p> <p>Lack of cooperation</p> <p>Time constraint</p> <p>Unwillingness /Time constraint</p> <p>Negative attitude/ Disinterest</p> <p>Information literacy not integrated in subject</p> <p>Lack of support</p> <p>Lack of support</p> <p>Unwillingness</p> <p>Technology issues</p> <p>Time constraint</p> <p>Time constraint</p> <p>Collaboration unimportant</p> <p>Technology issues</p> <p>Communication issues</p> <p>Time constraints</p> <p>Disinterest</p> <p>Unwillingness</p> <p>Lack of structure</p>

<ul style="list-style-type: none"> - - being able to meet with subject teachers/departmental bodies to get a comprehensive view of what their action plan for the students are on a termly basis. - not enough resources in the library to meet the teacher needs - Sometimes scheduling - timetabling of classes teachers class timetable teachers lack of knowledge on the role of the slmc and staff - They are not interested - The mindset that Librarian do not possess the skills and teachers can do this on their own. Also this is not the place of the Librarian teaching is the teachers job. - Teachers perception of Library staff is; they are here to keep the students quiet while under our supervision and they are here to pack books. They are not aware of the educational qualifications of School Librarian and as such think they are incapable of being teachers. <p>L</p> <ul style="list-style-type: none"> - Time constraints. <p>Teachers not really understanding how important library services are in student development.</p> <ul style="list-style-type: none"> - The challenges encountered with teacher collaboration are firstly poor administrative scheduling of the schools timetable (education curriculum management) in relation to scheduling classes to be taught proper research skills or to use the relevant resources, thereby causing time constraints such as limiting of assigned periods to conduct live demonstrations of relevant resources etc. which may take longer than thirty-five /forty-five minutes allocated for one period. <p>Secondly some members of the teaching staff are unwilling to participate in these exercises, due to the fact that it takes away from their allocated teaching time, particularly when they have a substantial syllabus to cover during CSEC Level and A' Level examination periods.</p> <p>Thirdly technology and equipment failure is another major problem, some of the present equipment and resources at school media centers have become outdated, ineffective and nonfunctional. Internet constraints persistently hamper the delivery of key information in an efficient productive, and importantly a timely manner. Thereby directly affecting the time to relay information to participants thus making teachers weary and unwilling to participate in the collaborative efforts.</p> <ul style="list-style-type: none"> - Teachers are very busy trying to cover curriculum and 	<p>Time constraint</p> <p>Lack of resources</p> <p>Scheduling issues</p> <p>Lack of knowledge of the role of the SLMS</p> <p>Disinterest</p> <p>Lack of knowledge of the role of the SLMS/ Unequal status</p> <p>Lack of knowledge of the role of the SLMC</p> <p>Unequal status</p> <p>Time constraints</p> <p>Lack of knowledge of the role of the SLMC</p> <p>Scheduling issues</p> <p>Time constraints</p> <p>Unwillingness</p> <p>Time constraints</p> <p>Technology failure</p> <p>Technology non-functional</p> <p>Lack of internet</p> <p>Unwillingness</p>
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<p>any spare time they may have they use it to do extra work with students. As a result, no time is really available for collaboration as teachers are always busy.</p> <ul style="list-style-type: none"> - 1. Unwilling to listen 2. Know it all attitude 3. Teachers are not aware of the librarian's role in a school, mainly because they have lacked this experience. 4. Time 5. Family commitments 6. Culture of school 	<p>Time constraints</p> <p>Unwillingness</p> <p>Negative attitude</p> <p>Lack of knowledge of the role of the SLMS</p> <p>Time constraints</p> <p>Family commitments</p> <p>School culture</p>
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APPENDIX L: Final Coding Themes

Final Coding Themes	Initial Coding Keywords and Phrases
Role of collaboration in teaching Information Literacy	<ul style="list-style-type: none"> • Expectancy of collaboration • Collaboration not important • Rare happening
Factors for collaboration	<ul style="list-style-type: none"> • Lack of resources • Lack of support • Communication issues • Preparedness for collaboration • Awareness of learning styles • Support for • Readiness for
Levels/Forms of collaboration	<ul style="list-style-type: none"> • Collaborative frequency • Scheduling issues • Cooperative / coordination • Information literacy integration • Team teaching • Joint planning and assessment •
Challenges and barriers	<ul style="list-style-type: none"> • Lack of support from administration • Lack of knowledge of the role of the SLMC/SLMS • School culture • Time constraint • Resources • Budget /finance • Negative attitudes / unwillingness • Non-cooperation • Status inequality •
Technology in Collaboration	<ul style="list-style-type: none"> • No structure in place • Lack of internet • Old technology • Lack of technology resource • Out-dated technology equipment •